



Report on the Expert Interviews and Conclusions

Results from the Expert Interviews and Conclusions concerning “Counteracting brain drain and professional isolation of health professionals in remote primary health care through tele-consultation and tele-mentoring to strengthen social conditions in remote BSR”.

Output No. 3.2

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List of Abbreviations

BelMAPO	Belarusian Medical Academy of Post-Graduate Education
BSR	Baltic Sea Region
CEO	chief executive officer
E	expert
e.g.	exempli gratia - for example
i.e.	id est - that is
IT	information technology
KVSH	Kassenärztliche Vereinigung Schleswig-Holstein
MD	medical doctor
NHS	National Health Service (Latvia)
PhD	philosophiae doctor - Doctor of Philosophy
PHC	primary health care
WP	work package



Short Abstract

This report on the expert interviews carried out in the seven project partner countries is part of the theoretical background of the PrimCareIT project, which aims at raising attractiveness of remote primary health care for medical professionals. The aim of the expert interviews is to further elaborate on the topics of PrimCareIT in Belarus, Estonia, Finland, Germany, Latvia, Lithuania and Sweden.

In each country the study coordinators conducted expert interviews with a target of ten experts, including GPs as well as representatives of health care institutions. All interviews were semi-structured and based on the same interview guide in every country to answer project relevant questions regarding brain drain, professional isolation, tele-consultation and tele-mentoring.

The findings from the expert interviews were compared among each other and with the findings from the literature review (PrimCareIT-Output 3.1) that had been done by the PrimCareIT partners preceding the expert interviews.

The literature review had revealed that especially topics such as the effects of brain drain and professional isolation on the health care system or the weighting of factors leading to brain drain have not been considered in most of the countries.

The interviews showed that the characteristics of brain drain and professional isolation are on different levels, as well as the prevalence of tele-consultation and tele-mentoring differs between the countries. The factors and effects of brain drain and professional isolation are diverse but similar in all countries. The mostly named factors for professional isolation included the own personality of the health care workers, the arrangement of the health care systems or the geographical isolation, when working in rural areas as well as financial problems, heavy work loads, a lack of team work and difficulties in participating in trainings. Among the main factors for brain drain were differences in salaries, poor attitudes of the society towards health care workers and better social conditions in urban compared to rural areas. The effects named of brain drain and professional isolation were an increase of dissatisfaction and negative attitudes towards the health care system as well as a decrease in medical care accessibility and quality. The most important solutions counter-acting brain drain and professional isolation were seen in higher funding for primary care, adequate work pay ratios and better employment opportunities as well as in additional support especially in rural areas. Tele-mentoring and tele-consultation experience among the medical professionals ranged from using tele-consultation and tele-mentoring already to not having used any telemedicine at all until today. Therefore, the results differ a lot concerning tele-consultation and tele-mentoring, although they are seen as positive solutions in all countries by most experts.

Since most of the topics are still not that widely studied, further research will be necessary, following this study. Therefore, a focus group will be organised in February 2013 to further elaborate on information regarding the usage of tele-consultation and tele-mentoring to counter-act brain drain and professional isolation in the partner countries.



The target groups of this output are all project partners from work packages and general public interested in the project as well as politicians and other stakeholders.

The partners of WP3 have been involved in elaboration of the present output.



1. Introduction

The overall aim of the project PrimCareIT is to raise the attractiveness of remote primary health care for medical professionals by the means of tele-consultation and tele-mentoring. The project counteracts brain drain and professional isolation in sparsely populated areas for more equal access to primary health care in the Baltic Sea Region (BSR).

PrimCareIT includes and connects findings from the flagship projects ImPrim and ICT for Health. ImPrim focuses on financial incentives and professional development to attract health professionals to primary health care (PHC). PrimCareIT complements this approach by elaborating on opportunities of tele-consultation and tele-mentoring. The increasing lack of medical professionals, such as health workers and medical doctors, challenges the maintenance of primary health care in all BSR countries. Demographic changes and an ageing population lead to a rising demand for primary health care services. PrimCareIT reuses outputs from the EU-Interreg projects ImPrim, focusing on incentives for health professionals to work in remote areas and ICT for Health, concentrating on eHealth acceptance in the background of an aging population. PrimCareIT further elaborates on those findings for a strategy development to counter-act brain drain and professional isolation from primary health care in remote areas in the Baltic Sea Region through the usage of tele-consultation and tele-mentoring.

The project objectives are represented by the following diagram below.

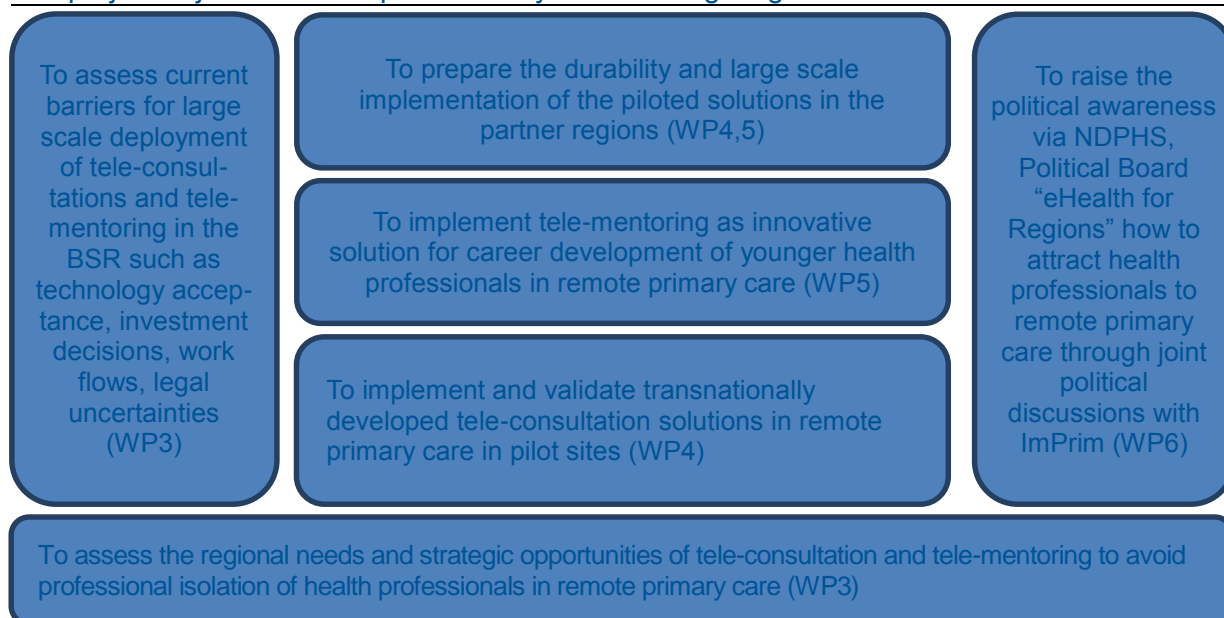


Figure 1: Objectives of PrimCareIT (Source: PrimCareIT (2012))



The project base and the background layer for all other activities is the assessment of the regional needs and strategic opportunities of tele-consultation and tele-mentoring to avoid brain drain and professional isolation of health professionals in remote primary care. To assess these needs the background of the current situation in countries participating in the project shall be identified. The findings will lead to the generalization of the overall situation regarding deployment of tele-consultation and tele-mentoring in the partner regions and also to the definition of specific ways to counteract professional isolation and brain drain in regional remote primary care.

In work package three the main question is to assess the regional needs and strategic opportunities of tele-consultation and tele-mentoring in order to avoid brain drain and professional isolation of health professionals in remote primary care. This second outcome follows a literature review (Output 3.1) and focuses on the expert interviews carried out in the seven partner countries on professional isolation and brain drain of medical professionals in rural primary care and gives an overview about the country-specific differences.

2. Methodology

2.1. Procedure

After having analysed the literature of the different countries concerning the relevant topics brain drain, professional isolation, tele-consultation and tele-mentoring in output 3.1¹, the next step was to further investigate those topics by including the opinion of health care professionals from all seven countries.

The analysis was conducted similar to two studies that had been carried out in the field of telemedicine before. One from Norway, where 16 experts, namely GPs, were asked on their opinion concerning the implementation barriers and facilitators for telemedicine solutions in Norway². The other one was from Australia, where ten experts from different fields of the health care system were interviewed about their attitude towards barriers for the uptake of telemedicine in Australia³. Those studies were regarded as relevant references due to the same approach to figure out what is not working, yet, and find best practice examples for telemedicine solutions.

Due to the so far little spread of tele-consultation and tele-mentoring solutions that was identified in the literature review⁴, a large-scale quantitative analysis was regarded as futile since the answers

¹ PrimCareIT (2012)

² Larsen, Gjerdrum, Obstfelder & Lundvoll (2003)

³ Moffatt, Eley (2011)

⁴ PrimCareIT (2012, p. 69f.)



of health professionals were expected to be too hypothetical as to build on them. Thus, it was decided to conduct interviews in a qualitative setting with health care professionals in all seven countries that are already in contact with the relevant topics to gain further knowledge through the opinion of those being affected. Asking experts include as Miller and Glassner state the "evidence of the nature of the phenomenon under investigation, including the contexts and situations in which it emerges, as well as the cultural frames people use to make sense of these experiences. Combined, they offer important insights for theoretical understanding"⁵. It is therefore not only the expert's opinion but also his/her environment that influences the opinion making and understanding of theoretical ideas.

The interviews were semi-structured and based on an interview guide⁶. Thereby, a good insight into the participant's opinion, without influencing the speaking flow by closed questions was expected to be gained along with new aspects not named before. On the other hand, the interviews were not totally open, but semi-structured to ensure that the interviews of all partners were covering roughly the same topics to guarantee comparable data from all seven countries⁷.

In the joint project meeting in Karlskrona, in April 2012, the work package partners decided on a set of questions concerning topics around brain drain, professional isolation, tele-consultation and tele-mentoring because those are the central aspects in the project and had been analysed in the literature review before⁸. The total set of questions can be seen in the appendix, on page 105. In the literature review carried out prior to this study⁹, this set of questions proved to build a good basis and similar questions were therefore chosen to ensure a comparability between the findings from the literature review and the expert interviews. The questionnaire (see Appendix) started with a part on definitions of brain drain and professional isolation. It further included questions on solutions to counteract those phenomena and concluded on questions regarding tele-consultation and tele-mentoring as solutions in this field, covering questions on experience, opinion and recommendations of the experts. This structure assured a smooth start into the topic, which through the definition ensured that everyone was talking basically about the same area. The interview guide was translated by the partners into their country's language. It was decided to conduct and analyse all interviews in the native languages of each country and afterwards translate all results into English. Biases through the translation as pointed to in studies on transnational interviews¹⁰, were considered but weighted lower than conducting the interviews in English, which might have led to misunderstandings and limited response behaviour as well as a

⁵ Miller, Glassner (2011, p. 145)

⁶ Bogner, Menz (2009, p. 65)

⁷ Winston (2012)

⁸ PrimCareIT (2012)Output 3.1

⁹ PrimCareIT (2012)

¹⁰ Filep (2009, p. 59)



lower willingness to participate in the interviews. All interviews and analysis' were conducted by the national partner organisation members to avoid misunderstandings. Thereby, each partner having carried out the interviews could bridge the problem of translating the whole transcription of the interview and instead write an English analysis, which helped counter-act the problem of untranslatable terms and phrases from another language into English¹¹. This was necessary to receive best possible country specific results.

The sample size was chosen according to the study from Australia, where ten experts were used from different health care areas. This was regarded a fair number, since it was not only required in the project application but it was determined that with ten experts from all seven countries the study would in the end include the opinion of 70 experts. Less than ten experts per country would have led to a number of respondents not valid enough to derive wider conclusions, since other qualitative interview studies also work with at least ten or more interviewees¹². Similar to the Australian study, five GPs and five representatives of any other health care organisation or institution were supposed to be interviewed in each country to gain knowledge as wide as possible on the opinion through a wide range of health care professionals¹³.

The interview partners were selected by internet research, brain storming or personal contact to the experts. They were invited by each partner him/herself. The internet research combined with a brain storming on potential partners was carried out to find suitable partners in an easy, neutral and objective manner. Each partner conducted this research himself/herself to bridge language barriers. The personal contact was used as well to include partners that due to the know how of the project members were regarded as potential stakeholders for this topic in the particular region. The internet search was attempted to be done comprehensively to avoid research biases as good as possible.

For documentation purposes, each interview was recorded with the interviewees' consent on a digital voice recorder to simplify the analysis. Through recording it, the interviewers got the chance to concentrate completely on the conversation and were not interrupted by note-taking. Also, the analysis and documentation was easier and the exact wording could be replayed in case of any incomprehension¹⁴. Still, the voice recorders placed an influence on the interviewed person¹⁵. In order to reduce this, the interviewees were informed about their opportunity to remain anonymous in the study and were ensured that the transcripts of the interviews remained anonymous as well. After taking the interviews each partner transcribed the interviews into plain text for the analysis.

¹¹ Filep (2009, p. 69)

¹² Gray, Spence & Kelly (2010); Günther, Kürstein, Riedel-Heller & König (2010); Vuononvirta *et al.* (2009)

¹³ Moffatt, Eley (2011, p. 2)

¹⁴ King, Horrocks (2010, p. 44)

¹⁵ King, Horrocks (2010, p. 45)



The expert interview analysis derived from Meuser and Nagel was chosen¹⁶, according to whom the interviews were analysed in the following structure to get similar analysis data: The answers to the different questions were analysed. Therefore the interviews were read and summarized according to the different topics. In a first step the answers to the direct questions were analysed, while in a second step the whole interview was scanned for answers to the different topics, since the answers for one topic did not only occur to that particular question. The answers were collected in tables and afterwards summarized according to the number of respondents naming each aspect. Those analysis' were in the end translated into English as described above.

2.2. Sample description

2.2.1. Definition of the term "expert"

In this chapter, the definition and the characteristics of an "expert" in the different countries is described.

An expert according to international literature as cited from Menz and Boger by Klinck, an expert is defined as follows:

*"Experts have technical process oriented and interpretative knowledge referring to their specific professional sphere of activity. Thus, expert knowledge does not only consist of systematized and reflexively accessible specialist knowledge, but it has the character of practical knowledge in big parts. Different and even disparate precepts for activities and individual rules of decision, collective orientations and social interpretative patterns are part of it. The experts' knowledge and orientations for practices, relevancies etc. have also - and this is decisive - a chance to become hegemonic in a specific organizational or functional context. This means, experts have the opportunity to assert their orientation at least partly. By becoming practically relevant, the experts' knowledge structures the practical conditions of other actors in their professional field in a substantial way."*¹⁷

In contrast to this detailed definition the partner's definition of the term "expert" differs slightly from country to country.

In Estonia an expert was for this research defined as a person with great knowledge and experience in some area of expertise. In this case the knowledge of Estonian health care system, primary care medicine, tele-medicine and occurring problems. Expert's opinion is acknowledged by a wider community and because of that the expert has influence and power to make a difference. In Finland a person is regarded as an expert, if he/she is in some way concerned in the topic, either in a professional way or in an administrative or development-related way. Similarly, experts according to the German definition are individuals that due to their professional or voluntary activities possess special knowledge on the concerning problem¹⁸. This includes that a person is

¹⁶ Meuser, Nagel (2009, p. 35ff)

¹⁷ Flinck (2009, p. 166)

¹⁸ Bogner, Menz (2009, p. 65)



relevant as an expert in a field if he has knowledge not solely, but of information in this field, which is not accessible to everyone¹⁹. In Latvia the term "Expert" can be defined as a competent person, who will be invited in case of disputable or complex questions, problems, if there is a request for expertise specialized knowledge. An expert is a person who is competent in a specific area based on the knowledge gained from education or through personal experience²⁰. An expert in Latvia means that the professional has knowledge in the field of expertise or experience in the field of expertise. According to the Swedish definition an expert has a solid prolonged experience in a specific area, working in it or with it, i.e. operational, research, development or with strategies.

Summing up the different aspects, in Sweden an expert is defined through his experience in a special topic, while in Latvia and Estonia an expert has expertise through experience and/or gained knowledge through his/her profession. In Estonia a person is especially regarded as an expert if he/she has decision making power. In Germany and Finland, in contrast, an expert is defined as such by having special knowledge gained through the profession or other activities. Taking into account the overall definition by Meuser and Nagel, adapted by Flinck²¹, who include the special knowledge as well as the practical knowledge, which reflects the experience, an expert according to this study is regarded a person that has special knowledge on a certain topic, gained through his/her profession, activity or experience.

2.2.2. Description of the experts in the sample

The experts were categorized by profession, age, area, sex, time in current activity/health care system and expertise. The profession was divided into GP and institution's representative, as it had been chosen by Moffat et al. in a similar study setting in Australia before²². The age groups in this study were chosen similar to a study conducted in 2005 in the UK, where the age groups had been set to 20-39, 40-55 and older than 55. The lowest category was chosen as "40 and younger", to have the professional beginners in one group, the next one being 40 till 55 years old, where people are regarded to be in the middle of their professional career, followed by "older than 50" to include those that already are well established in their jobs and as GPs have to think about their succession already. It was considered that the members of the three different groups can be merged to ensure a homogeneous sample. The area of origin was divided into rural and urban to get interview partners from both areas involved into the discussion. Sex was considered important to receive the opinion of male as well as female health care actors. The expertise was divided according to the core areas of this research into the topics "telemedicine", "work of a GP", "education" and "health care system in general" to ensure that the experts have expertise in at

¹⁹ Meuser, Nagel (2009, p. 37)

²⁰ Latvijas Zinatnu akadēmija Terminologijas komisija (<http://termini.lza.lv/term.php?term=expert>)

²¹ Flinck (2009, p. 166)

²² Moffatt, Eley (2011, p. 2)



least one of the fields to be relevant as experts for this study²³. The length of involvement into his/her activity or the health care system is regarded another important figure that was measured to describe the sample in five out of seven countries.

Belarus

There were ten experts from Belarus including six men and four women who had taken part in the interviews. There were three practicing doctors and seven representatives of healthcare management authorities and educational establishments. One of the experts was younger than 40 years old, seven experts were from 40 to 55 years old, two experts were older than 55. The experience of work in the healthcare system was more than 20 years (nine persons). The average age of the experts was 51.1±2.3 years, standing in the system of healthcare for 29.5±5.2 years. Two of the experts worked in the rural areas, eight persons in Minsk. Seven persons were acting as qualified in the questions of tele-medicine, eight persons in the questions of GPs' work organization, seven persons in the process of rendering medical care to the public, seven persons in the young specialists work organization. All the experts had the highest category on their main doctor-specialty. There were two professors doctors of the medical sciences and four associate professor candidates of the medical sciences among the experts. Four experts worked for the healthcare authorities, two in the educational system, one in the city polyclinic, two in the rural healthcare institutions. Four of them were CEOs of healthcare institutions, three were deputy CEOs of healthcare institutions and three were heads of departments.

Estonia

Altogether ten experts were interviewed in Estonia. Four of them (expert number EST E1, E2, E3, E4) are general practitioners (called family doctors in Estonia), but two of them (experts EST E3 and E4) are currently not working as family doctors. One expert (expert EST E6) is a doctor from another speciality. Experts EST E5, E7, E9 and E10 have also a medical background (they have graduated from the medical faculty) but are not practicing as medical doctors. Two experts (EST E8 and E9) are representing the public body and one expert (EST E10) the institution mainly financing the Estonian health care system.

Six of the ten experts were female and four were male. Their age ranged between 38 and 70. All of the experts had higher education and six of them have done their PhD in medicine.

²³ Pietzsch, Gemünden & Bolz (2001, p. 97); Vuononvirta *et al.* (2009, p. 291)



Finland

There were ten experts interviewed in Finland. Two of them were physician or nurse and eight of them were institution representatives. One of the experts was younger than 40 years old, seven experts' age ranged between 40-55, while two experts were older than 55 years. Two experts came from rural and eight from urban areas. There were six female experts and four male experts interviewed. Everyone has expertise in health care system.

Germany

The experts from Germany are partly GPs and partly from health care institutions. Altogether 13 interviews have been carried out in Schleswig-Holstein. Although, the number aimed at was ten, it was decided to interview three more persons, since three persons only answered the inquiry after ten others had already been invited. The opinion of those three was still regarded relevant and that is why it was chosen to have more than the ten planned interviews.

Out of the 13 interviewees six partners are GPs and seven are from different health care institutions from primary and secondary health care and other health care institutions in Schleswig-Holstein.

The suitability for the interviews was derived from the individual's experience either with telemedicine, tele-consultation or tele-mentoring or in the fields of education, health care research or the general health care system with the challenges of a growing lack of health care professionals in rural Schleswig-Holstein. All interview partners have experience in one of the fields of telemedicine, the environment of a GP, the general health care system or the education of young health professionals. All of them are due to different causes associated with two to three topics.

Altogether, ten participants were male and three female, with none being younger than 40 years, nine being between 40 and 55 and four older than 55 years old. Of the GPs, two came from a city (with more than 15,000 inhabitants), two from a small town (with less than 15,000 inhabitants), one is practicing in a village and one on an island in the North Sea.

Eight of the thirteen German participants are active in the health care system for more than 20 years, while three are working in health care for ten to 20 years and two for less than ten years.



Latvia

The National Health Service took as experts persons from the following different fields:

- From medical staff - heads of professional associations and GPs involved in the pilot of PrimCareIT WP4;
- From stakeholders - key persons of the health department of the Ministry of Health, commissioners of health care services of the NHS, advisers from association of local municipalities and academics.

During the time of interviews twelve persons were interviewed: six of them were experienced in the health care system, the other six were GPs. The twelve respondents who participated in the interviews included eight women and four men, who were ranged in age from 30 to 60 years. Four experts are from the Capital of Latvia, but two others from Latvia west region – Kurzeme and east – Latgale. The GPs who aren't involved in the pilot are from Riga and Ventspils.

As it can be seen on the map below four GP's (who are involved in pilots of the WP4) are from different rural areas of Latvia. Three of them live and work close to the Belarusian and Lithuanian borders.

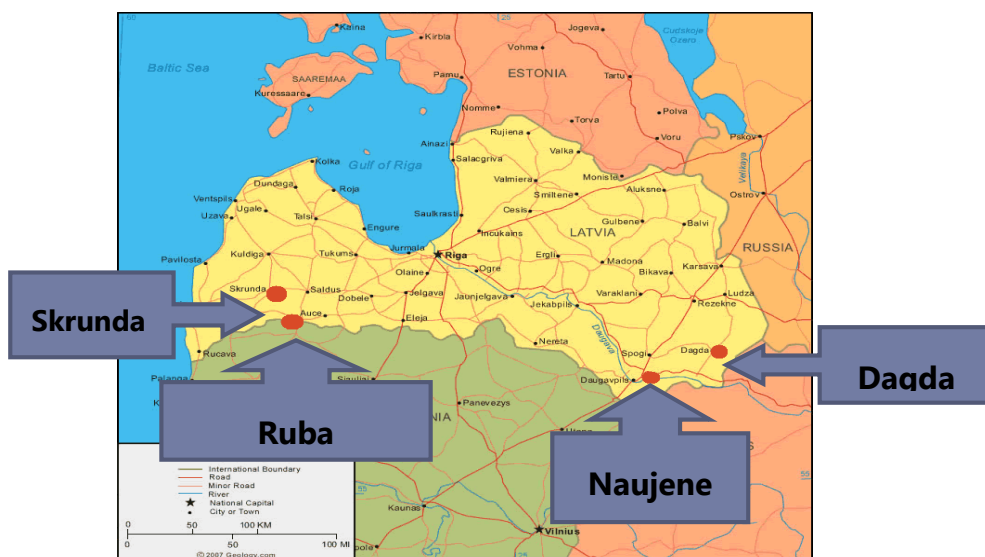


Figure 2: Location of interviewed GPs from rural areas²⁴

²⁴ created by the author



Lithuania

Ten experts in total were interviewed in Lithuania: four women and six men. In this group were five physicians and five decision makers in the health care system. The average age of the participants was 48.3. Four interviewees were younger than 40, two were between 40 and 55, while another four were older than 55. Out of the ten interviewees four were located and worked in rural and six in urban areas.

Sweden

The Swedish experts are nurses or/and GPs working in remote primary care, experts working with e-health questions on a higher level such as in a government agency, health professionals that work actively with tele-services such as a dermatologist doing research in telemedicine, a GP using tele-services every day, an IT-technician working with tele-services and a professor with a research point-of-view involved in remote primary care and tele-services.

Two persons (one male, one female, under 40) are co-ordinators of e-health questions at the Ministry of Health and Social Affairs. Two nurses (two females, 55 and older), specialized in primary health care are working in remote primary care.

One MD and PhD in Dermatology at Sahlgrenska university hospital (male, between 40-55) is active in research projects concerning tele-consultations between GPs and Dermatologist in Gothenburg. One GP in Storuman Health Centre (male, 55 and older), which is situated in a rural area in the North of Sweden is involved in remote primary care medicine as head of operations in a medical research unit. A professor (male, 55 and older) works in the department of Psychogeriatrics in the city of Umeå as well as an IT-technician (male, between 40-55) working at the university hospital in the city of Umeå and GP (male, 55 and older) practicing in the northern part of Sweden in a remote primary care center.

In general a saturation in the responses was experienced and therefore it was decided in Sweden to not struggle to make the last planned interviewees, since most of the experts had very low knowledge of the vocabularies, had nearly the same answers and had to make more of an subjective judgement than the objective picture that was wanted.

2.2.3. Summary of the sample description

Altogether, 74 experts from seven different countries were interviewed in the context of this study. With 36 female and 38 male participants the gender ratio is balanced. Most participants were between 40 and 55 years old (41), while 13 interviewees were under 40 and 20 participants older than 55 years old. Out of the 74 interview partners 47 come from urban and 27 from rural areas. Considering their professional background, 31 interviewees were physicians or nurses and 43 were representatives from health care institutions. Of the experts 26 had expertise in the topic of telemedicine, 41 in the areas of a GP, 53 were experienced in the overall health care system, and 20 in contexts concerning the education of young health professionals. An overview of the specific breakdown of every country into the different categories



can be found in the appendix on page 107.

The high amount of experts and the representation of experts from all countries, all age groups, both genders and rural as well as urban areas, along with expertise from all relevant fields for this project provide a reliable base for this study as it had been planned in the preparatory phase.



3. Country specific expert interviews

In the following chapter the findings from the expert interviews in each country are described and compared among each other and with the findings from the literature review.

3.1. Definition of brain drain and professional isolation

3.1.1. Definition of brain drain

According to the literature review, preceding those expert interviews, no explicit definitions of brain drain exist in Sweden, Latvia and Lithuania, but in Latvia, as for the definition of professional isolation, it is mentioned that physicians from rural areas are moving to cities or abroad and that this causes brain drain. In the other countries, i.e. Belarus, Estonia, Finland and Germany brain drain is understood/defined as the outflow/emigration of the qualified specialists from rural to residential areas and the difficulties in providing the rural population with qualified health care staff²⁵.

Since not all countries provide a definition in the literature and in to compare the definition of the different interviewees, the definition of brain drain from the experts perspective and the number of experts that named each definition is the topic of this chapter.

Belarus

The term “brain drain” was defined by the experts as the immigration from the countries with highly qualified specialists abroad or the outflow of the specialists from the healthcare system to other more attractive fields.

All the experts (ten people) indicated that the problem of brain drain should be first of all considered on the republican level. In addition, six experts considered it important to study this problem on the level of healthcare organizations, four on the oblast level and four on the regional level of healthcare management.

Nine experts indicated that there was a problem of brain drain in their region (organization), while one expert pointed out that there was no such a problem in his region.

Estonia

It can be talked about brain drain primarily when a well trained high level specialist decides to work in a place where he has better conditions for working, is paid better and where he sees opportunities for self-development. (EST E2)

²⁵ PrimCareIT (2012, p. 75)



All ten Estonian experts agreed to this definition and they didn't see a difference between rural and urban areas. The bigger problem in Estonia is seen in the brain drain to foreign countries. Almost all the experts pointed out that this was a problem, because above all it is understood that high-quality labour will leave Estonia.

Some of the experts emphasised that migration can also be divided into long-term and short-term brain drain, which means that some of the specialists, who went to work to another country, will return after some time. "The sooner he goes the smaller the probability that he will come back." (EST E6)

Three experts also mention in the context of definition an inland or domestic brain drain and by that they mean when a young medical student chooses some other profession rather than a doctor's after graduating from university, for example working for a pharmaceutical company. On the other hand one professor (EST E4) stressed that inland brain drain was a bigger problem in the nineteen nineties, but now doctors are coming back to practice medicine and this problem is disappearing, but it is still a big issue among nurses.

Finland

Among Finish experts the term brain drain was interpreted as referring to know-how moving away from a locality along with people. There has always been brain drain in Finland. Young health-care professionals want to develop their know-how in bigger organizations. Brain drain is not directed from Finland to other countries, but the export and import of doctors is in balance. Consequently, the number of doctors leaving Finland is approximately equal to that of foreign doctors working in Finland. Instead, brain drain from health centres to special health care can be observed.

The respondents thought there are not enough physicians at health centres. Physicians often make their choices while still studying, as to whether they want to work at a health centre or not. Primarily, the question is not about brain drain. Rather, it is about embarking on the career of health-centre doctor in general.

Two of the interviewees also said young doctors do not go to work to health centres because they may lack the support of a senior colleague. By contrast, it is always possible to get this support in special health care. Young doctors also feel they are not qualified for working at a health centre, and they are afraid to go to work there.

Physicians want to specialize in something, and leave for this reason. Three of the interviewees pointed out that lots of physicians move to occupational health care. Nowadays, there are 1,800 physicians working in Finland in occupational health care. The job description of a physician working in occupational health care is less loading and does not include an obligation to be on duty.

Removal from one health centre to another is also frequent. This is caused by the insecure economic situation in municipalities. Physicians move from smaller health centres to bigger ones. They also move to private firms and "gig companies". This is because doctors want to get away of development projects (which are numerous) and decisions resulting from municipal policies. Physicians want to concentrate on practicing medicine, which they have studied for. When considering the activities of young medical



professionals, it cannot be excluded that, in five to ten years, physicians working in primary health care will no longer be working in primary health care but will have moved to another sector. Some might interpret this as brain drain. However, this is not the case; it is about physicians following their own strategic career plans, made primarily while still studying.

Brain drain may occur in the direction of the private sector and university hospitals. There are also central hospitals and specialities which the national top experts concentrate in, such as urology at Seinäjoki Central Hospital. Consequently, brain drain may also occur in the direction of the region's own hospital. It is about critical mass where the spirit of improvement of things is concentrated on cooperation.

One of the interviewees also stated that, in the future, Finland will face a lack of nurses. Professionals will go to work to special health care, the private sector, and university hospitals. In 2008 to 2025, 234,000 new employees will be needed in the sector of social work and health care. 70 per cent of this need is explained by retirement. The same phenomenon can be predicted to happen also in the other Nordic Countries.

Salaries in the health care sector are higher in Sweden and Norway. It is possible that professionals will go to Sweden and Norway to "do gigs", because these countries are expected to face an even more serious lack of workforce than Finland.

Two respondents mentioned that nursing staff quite often also go to work in other professional fields. Brain drain-like shift to other jobs may occur e.g. when establishing a family. Three-shift work is a problem at that stage, and regular daytime work is preferred. One reason for brain drain is fixed-time employment, or short employment contracts. This causes removal from small organizations to large ones among nursing staff, because uninterrupted substitute posts are easier to find in larger organizations. Many people also earn better in other jobs.

Germany

Four of the six GPs understood a preferred establishment of a practice in urban areas compared to rural areas under the term "brain drain" (GER E10, E11, E12, E13). The migration to a foreign country was also named four times (GER E8, E9, E10, E12). Three interviewees said that the decision for other non-curative occupations are also an aspect of brain drain (GER E8, E9, E10). One GP named as an aspect of brain drain the decision against a specialisation in family medicine, but in other medical specialisations, who are then not able to perform as wide spread as GPs anymore (GER E13).

According to all six experts a shortage of physicians in rural areas exists (GER E8, E9, E10, E11, E12, E13). Still, one GP underlines that the shortage is not acute, yet, but will be existent in the future, if the requirements do not change and the planning of demands is not adjusted to the actual situation (GER E8).

From the group of the representatives of the Schleswig-Holstein health care institutions four of seven interviewees named the migration to a foreign country as a factor of brain drain (GER E2, E3, E5, E6). A decision for other occupational fields (GER E3, E4, E6) as well as a decision against a GP practice



establishment was named by three persons (GER E1, E2, E5). By one interview partner the general decision against a practice (GER E6) and the lack of enough highly educated personal was named (GER E7).

Altogether, eight out of thirteen interview partners understand by brain drain the cross boarder migration. For seven interviewees the decision against a rural area is an important aspect of brain drain, slightly followed with six namings of the decision for an other occupation. Two persons, one from each group, named the decision against a practice establishment and one each said that for them the low number of young health professionals and the decision against the GP occupation are aspects of brain drain.

Latvia

Ten out of twelve respondents (six experts and four GP's) have faced brain drain. First of all respondents define it as a problem. One of the experts underlined that brain drain is not just a health care system problem, but a problem generally associated with socio-economic factors. Another expert defines it as an existing problem which leads to other issues, even if the extent of this problem can't be measured. Two more respondents defined brain drain as medical personnel's (physicians, nurses, physician assistants) migration from Latvia to find a new and better paid job abroad. One of them also mentioned that the most popular countries are Sweden, Germany and the United Kingdom. This tendency is observed also among representatives of other professions.

Three respondents underlined the actuality of brain drain in urban areas. Two other respondents emphasize that there is no brain drain in primary health care in rural areas and sometimes this situation is even opposite, with people returning to Latvia. Another expert points out that sometimes physicians work both, in Latvia and in another country: *"For example, I known a doctor working in hospital in Latvia as a surgeon, but he also periodically travels to England for a few days to work there, he gets enough income and it is beneficial for him to do so."*

Lithuania

General practitioners, as well as other health care professionals know what is understood by „brain drain“. All of them relate this occurrence to health care professionals, who have completed studies in Lithuania and are after graduation moving abroad. Some (three of ten) health care professionals said, that „brain drain“ is the migration between cities of Lithuania.

Not all physicians (two of five) were sure that the occurrence that health care professionals are moving abroad is „brain drain“. They said that it is natural health care professionals migration „<...> because of the globalization where is migration, and the specialists are changing“ (LTU E8). Also, health care professionals are not only leaving Lithuania, but they are coming from other countries to Lithuania as well. Of course the proportion of immigrating physicians is lower compared to the emigrating amount.

It is important to mention, that experts said, that the term „brain drain“ means moving abroad for a



longer period of time with health care professionals to striking roots and doing careers. „<...> *the health care professionals leave who have received medical education in Lithuania and integrate into any other EU country* (LTU E7).

Sweden

Three experts defined brain drain as a loss of competence and lack of opportunities to develop within the specific profession. One expert said that brain drain means not to be valued as a co-worker and a talented colleague in an organization with lack of continuous education, low salaries and bad working conditions but also that it can be a lack of labour thinking of brain drain from one workplace in difference to brain drain from one individual. The other experts did not have an answer.

Summary

The term "brain drain" was seen as the outflow of high level specialists from one country to another by experts from Belarus, Germany, Latvia and Lithuania, while in Germany, Belarus and Estonia experts also mentioned the choice of medical professionals for a different occupation than the medical. This is related to the Finish view, where experts state that brain drain is when know-how is moving away with persons and might occur in the direction from the public to the private sector or university hospitals. In Germany and Estonia the aspects of moving from rural to areas with better individual working condition was named. Only in Germany the decision against the establishment of a practice was named and only in Sweden the loss of competence and the lack of opportunities among the individual developments was understood as brain drain by the experts.

Compared to the literature review which was focused on the term brain drain as well the expert interviews opened new aspects of brain drain. While the literature review only revealed the aspects of outflow of professionals into other countries or from rural to urban areas, the experts named the migration to other occupations or the loss of knowledge by the individuals as well.



Table 1: Overview of definition of brain drain²⁶

	Belarus	Estonia	Finland	Germany
Definitions of brain drain	<ul style="list-style-type: none"> the immigration from the countries with highly qualified specialists abroad or the outflow of the specialists from the healthcare system to the other more attractive fields- 	<ul style="list-style-type: none"> a well trained high level specialist decides to work in a place where he has better conditions for working, is paid better and where he sees opportunities for self-development -an inland or domestic brain drain and by that they mean when a young medical student chooses some other profession rather than a doctor's after graduating from university, for example working for a pharmaceutical company 	<ul style="list-style-type: none"> 'the term brain drain was interpreted as referring to know-how moving away from a locality along with people. Brain drain may occur in the direction of the private sector and university hospitals. 	<ul style="list-style-type: none"> the cross boarder migration'-the decision against a rural area '-the decision for an other occupation'-the decision against a practice establishment
	Latvia	Lithuania	Sweden	
	<ul style="list-style-type: none"> a problem that medical personnel (physicians, nurses, physician assistants) departure from Latvia to find job or better paid work abroad 	<ul style="list-style-type: none"> health care professionals, who have completed studies in Lithuania, are moving 	<ul style="list-style-type: none"> loss of competence and lack of opportunities to develop within the specific profession 	

3.1.2. Definition of professional isolation

The main components of professional isolation according to the literature review are health professionals feeling isolated from their professional peers, lack of mentoring work and opportunities to have professional discussions with the medical personnel or exchange. Also a limitation of the possibilities to continuous education and not being a part of the work community are mentioned in the different countries²⁷.

In the following chapter the expert's definition of professional isolation is analysed and how many of the experts mentioned each aspect of professional isolation.

Belarus

The term professional isolation was defined by the experts as the limited opportunities for the qualification improvement of medical specialists and communication with their colleagues.

²⁶ created by the author

²⁷ PrimCareIT (2012, p. 75)



Estonia

Seven experts from ten were able to define professional isolation. It was understood as insufficient communication possibilities with other colleagues, to consult about patients or other questions. Also it includes not having the possibility to attend necessary trainings and cause them to lag behind the latest knowledge in the field of medicine and other clinical and non-clinical information.

All experts found it was foremost a problem for those physicians, who are forced to work in the rural areas and because of that are distanced from bigger health centres and colleagues. Some experts said that professional isolation can be a problem also for doctors who work in urban areas but definitely is a bigger problem in rural areas.

Finland

Professional isolation was defined e.g. as follows: Everyday work is lonely, or the employee feels alone. This may be caused by geographic isolation, or the work leading to isolation from other people. Sometimes, these two factors may jointly lead to professional isolation.

As a concept, professional isolation could be interpreted in two ways: a) The person becomes isolated voluntarily, or b) The person becomes isolated by force of circumstances. Questionable is, if the term isolatedness might be more appropriate.

One of the interviewees did not see any professional isolation among nursing staff within the personnel group. In larger organizations, the internal isolation of personnel groups is more common. This means that doctors and nursing staff more often meet among themselves and there are fewer joint meetings. Different professional groups are also treated differently.

Professional isolation was also enlightened from other perspectives. Two of the interviewees pointed out that isolation may also be possible in a larger work community. For instance, if you specialize, you may sooner or later find yourself working alone. Isolation may also be caused by the shortage of staff in the work community. Persons may also feel isolated if they are not able to implement targets internalized in training in their own work community.

One interview also revealed the point of view that professional isolation does not exist because medical activities are guided by national recommendations for treatment and recommendations for best practices. After all, Finland has a small population and is in this regard a homogeneous country.



Germany

Among the GPs two respondents could at first not do anything with the term "professional isolation" (GER E9, E10). The reference to the issue of a GP shortage in rural areas was in both cases ground breaking. Of the six respondents, five understood under "professional isolation" the GP working as a lone warrior in a solo practice (GER E9, E10, E11, E12, E13). One respondent stated that the term was not existent in reference to the medical profession, since they were neither intra-professionally nor inter-professionally isolated (GER E8). For the five remaining respondents aspects of isolation include an individual practice, being isolated in the everyday routine, a lack of communication with colleagues, long working hours, short resting breaks and a lack of time for additional training (GER E9, E10, E11, E12, E13).

Only one interviewee felt personally affected by professional isolation (GER E11), while all others stated that they were neither affected themselves nor did they know people that suffer from professional isolation (GER E8, E9, E10, E12, E13).

Also, in the group of representatives of health care institutions the lone fighter in solo practice was identified as being affected by professional isolation. An expert brought it to the point with the following words: "*The occupation in solo practice without contact to others.*" (GER E3) This aspect was named by five of the seven respondents (GER E2, E3, E4, E5, E7). Other factors that have been mentioned in this context include a lack of feedback from colleagues, the lack of a team, a lack of communication with other professional groups, such as other medical specialists and physiotherapists, the sole existence in a large geographical responsibility area of general practice without professional partners, loneliness at work and due to a lack of spare time few opportunities to exchange information with colleagues on personal matters, a second opinion or telecommunication facilities. One person called professional isolation among doctors as non-existent (GER E1), while another interviewee described professional isolation as occurring especially in the first few years of establishment (GER E6). He argued that this resulted from the missing network, young professionals are used to from their work in hospitals and which they do not have established at the beginning of a practice.

Altogether, ten out of thirteen respondents named the lone warrior as the person being affected from professional isolation. It was equally divided that from both groups five persons referred to this definition. One person from the health care institution's group underlined that professional isolation is more a problem of the younger professionals not having established a network, yet. For one person from each group the term "professional isolation" was not existing among the medical profession, while two GPs did not understand the term in the beginning.

Latvia

Among the Latvian interviewees one expert gave a very detailed definition of professional isolation. He defined it as a lack of opportunities, a lack of ability to communicate with colleagues and get consultations, if they are needed, a lack of support in cases if advice or possibility of replacement is needed as well as problems to realize professional interests and problems to obtain additional education. Defining professional isolation this expert also wanted to specify what is included in the



term “health care providers”, namely if it is only about physicians or nurses or if physician assistants are also included.

Two other respondents have similar opinions about professional isolation. Talking about the definition they stresses the inability to get meaningful consultations from colleagues and specialists as well as the problems connected with education possibilities, because GP’s from rural areas have difficulties to participate in seminars, which most of the time are held in Riga.

There was no consensus in question about current professional isolation prevalence in Latvia. Five of the twelve interviewed persons said that the Latvian Health Care System has faced it, while the other five disagreed with them. They pointed out that professional isolation isn’t an actual problem, whereas two of them cannot form their opinion on this issue.

Looking closer at differences between GP’s and experts’ opinions, it can be seen that only two of six experts admit that there is no professional isolation in the Latvian Health care system. One of them underlines that nowadays different opportunities are existing. Those who want to be in contact with others use them already, but the other persons talk about worldwide cooperation between medical personal in Latvia and abroad. From six GP’s only one person admits professional isolation as a serious problem. Three of six GP’s haven’t faced the professional isolation because they: “...have good experiences of cooperation with colleagues. If I have some questions I know colleagues to turn to. Until now I have not received refusal”.

Lithuania

Two out of ten experts had good understanding of what is meant by professional isolation, but the understanding, opinions and experience of their definition was different.

After a short introduction aiming at getting a common understanding about the term "professional isolation" as a “lack of information without having opportunity to get second opinion from colleague’s in short time, peer-to-peer or any other type consultation on professional issues in day-to-day practice” experts were able to discuss about professional isolation issues and how it affects their work.

Sweden

Four experts defined professional isolation as when you are alone as a professional or few in the same profession in a geographic area and never get any feed-back from co-workers. One expert defined professional isolation as when you have few opportunities to contact other professionals. The other five experts did not have an answer to this question.

Summary

When it came to the professional isolation all countries defined it as being alone as a professional and lacking opportunity to communicate with colleagues or other professionals in case a consultation or an advice is needed. Belarus, Estonia and Latvia also pointed out that it is hard for



professionals living isolated to attend trainings to improve their qualifications and obtain additional education. Germany was the only country that said professional isolation is the status of a lone warrior and that it is a problem of especially young professionals, because they don't have an established network at the beginning of their careers.

Compared to the literature review, which was focused on the term professional isolation as well, the experts almost mentioned the same aspects. Lacking communication with others and not being able to obtain additional education were the main definitions. Only experts from Germany mentioned specific problems for young professionals as a new aspect.

Table 2: Overview of definition of professional isolation²⁸

	Belarus	Estonia	Finland	Germany
Definitions of brain drain	<ul style="list-style-type: none"> the limited opportunities for the qualification improvement of medical specialists and communication with their colleagues. 	<ul style="list-style-type: none"> insufficient communication possibilities with other colleagues, to consult about patients or other questions'-it includes not having the possibility to attend necessary trainings and cause them to lag behind the latest knowledge in the field of medicine and other clinical and non-clinical information'-a problem for those doctors foremost who are forced to work in the rural areas and because of that they are distanced from bigger health centres and colleagues 	<ul style="list-style-type: none"> 'Professional isolation was defined e.g. as follows: Everyday work is lonely, or the employee feels they are alone. This may be caused by geographic isolation, or the work leads to isolation from other people. Sometimes, these two factors may jointly lead to professional isolation. 	<ul style="list-style-type: none"> '-the lone warrior as the person being affected'-a problem of the younger professionals not having established a network
	<ul style="list-style-type: none"> a lack of opportunities, a lack of ability to communicate with colleagues and get consultations, if they are needed, a lack of support in cases if advice or possibility of replacement is needed as well as problems to realize professional interests and problems to obtain additional education 	<ul style="list-style-type: none"> a lack of information without having opportunity to get second opinion from colleague's in short time, peer-to-peer or any other type consultation on professional issues in day-to-day practice 	<ul style="list-style-type: none"> when you are alone as a professional or few in the same profession in a geographic area and never get any feed-back from co-workers'-when you have few opportunities to contact other professionals 	

²⁸ created by the author



3.2. Factors leading to professional isolation and brain drain

The factors leading to professional isolation and brain drain are described in the different country's literature as follows: In Belarus the main factors are seen in a low remuneration for work, inadequate working conditions, insufficiency of labour organization, limited resources of finances, technical equipment and information, territorial remoteness (urban and rural areas) and little possibilities of professional improvement. In Estonia factors are that the revenue base in rural areas is smaller, because it is based on the patient lists, which are generally shorter in rural areas. Also it is harder to find replacements, because rural doctors normally work alone. Other factors are that certain services are not provided in remote regions, that the working conditions in rural areas are harder and the payments abroad are higher. Another financial factor is that the start-up investments for a practice are high and the support by the county unpredictable. Also the lack of job opportunities for family members is limited and therefore builds a factor against the decision for a rural region. Furthermore, the start-up investments to open a practice are high. In Finland the factors are seen in the urbanization and the migration of educated people to the more urban areas. Also the lack of free time activities and other services increase professional isolation and brain drain. The working conditions that get worse through brain drain of other health professionals, such as higher work loads or more patients also increase the effect of brain drain. In Germany the main factors named are an insufficient infrastructure, i.e. poor accessibility or transportation to and in the region as well as a lack of cultural or free-time activities and educational institutions. Other factors in Germany are seen in the missing job opportunities for the partners and family members, low salaries and career opportunities, as well as a bad image of the region and the lack of professional peers. In Latvia the main factor for professional isolation and brain drain is the lack of IT technology, since only 30-35% of Latvian GPs use patient management systems. In Lithuania the factors leading to professional isolation and brain drain are reported to be rooted in salary problems, high workload, unfavourable working methods and bureaucracy, a lack of work tools and poor quality of those as well as the poor working atmosphere in health sector institutional teams. In Sweden no studies could be found regarding any factors but it was assumed by the partners that the lack of dissemination of knowledge between the health care workers can be seen as a factor enhancing professional isolation and brain drain²⁹.

The following chapter deals with the factors leading to professional isolation and brain drain named by the experts.

²⁹ PrimCareIT (2012, p. 75f)



3.2.1. Factors leading to professional isolation

Belarus

The experts named the following main reasons for professional isolation: lack of accessibility to the IT, impossibility to improve one's qualification abroad as well as the lack of cooperation with the specialists from other regions and countries.

Estonia

All Estonian experts reported that with the opportunities in the modern world, where there are so many possibilities to use different kind of technical equipment, and especially in Estonia, where distances aren't very far, it is quite hard to become professionally isolated but because of certain factors it can sometimes happen.

All the experts emphasized that the biggest factor for a physician to become professionally isolated is a person's own character, will and motivation: if there is no will and motivation to look for possibilities to educate and complement oneself, it is easy to become professionally isolated.

"I think that it depends more on the person because the conditions in Estonia should not make anyone feel professionally isolated. But I think when a person himself is like that, when he doesn't want to talk to other people, maybe he is too shy, then he may be isolated also in a big centre. It does not necessarily ... he might have many colleagues around him, but he still is isolated because we know, he doesn't belong to a group who would like to discuss and own other opinions. Research has shown that such professional isolation, like you defined it, occurs in humans who are uncertain about their decisions and are afraid to show what they think and then they are afraid to bring it out. So, this is one reason, why this can emerge, despite of the geographical location or distance." (EST E3)

Another expert put it this way: *"I think that each person is as lazy as he is allowed to be, in some certain conditions, and if he doesn't have any kind of will to act, if he doesn't have this inner motivation and external pressure, then he also can get isolated."*(EST E1)

It was mentioned previously that experts thought isolation to be a problem for doctors, who primarily work in rural areas and this is because these areas are too far from cities. Because of the distance the rural area' doctors have difficulties finding a replacement when using new training opportunities themselves and then they rather won't go. Also there is little daily communication with other colleagues and it is not possible to consult about patients urgently, since in rural areas primary care doctors mostly act in single-practices. One professor (EST E4) pointed out that in the country there isn't a classical "doctors' room" where to exchange everyday news and even organize a consultation to discuss complicated cases.

Although isolation was mentioned as a bigger problem in rural areas, the experts found that there is also a possibility to be isolated in the city. For example, the possibility of professional isolation in very specific specialties was mentioned. Because of the small size of Estonia some professionals in very narrow specialties might get isolated, because there are no opportunities for teamwork and



the chance to discuss the problems urgently that have emerged with other specialists from the same field. Experts found that this kind of situations may also emerge for those family doctors, who work in single-practices in the cities.

Furthermore, some other specific factors were named. For example one expert (EST E9) mentioned time limitation as one factor leading to professional isolation. Apart from everyday work it is hard to find time to educate yourself and to get in contact with other colleagues.

Experts also mentioned health-care arrangement (there are a lot of single-practices in Estonia) as potential factor leading to professional isolation. Two of the experts also said that a factor might be trust or its absence between doctors.

One expert (EST E5) had the opinion that professional isolation is only a problem for those primary care practitioners who don't belong to the Estonian Society of Family Doctors, which means that they are left without necessary information and also thereby are not interested in the recertification process, which is carried out by the Society of Family Doctors.

Another expert (EST E8) did not consider the emergence of professional isolation possible in nowadays situations, but thought it may occur when someone knocks on the door and doesn't get an answer, meaning that he/she won't get an answer to e-mails and calls. Another factor is if you wish to educate yourself in some specific field, but this is not possible, because there is no training available. In addition to that she thought that if a doctor wants to maintain his/her skills then he/she must have a certain number of patients and medical cases. This is harder in the rural areas because there are less patients. So it is harder to keep your professional skills and therefore the risk of becoming professionally isolated grows.

Finland

The interviewees mentioned several reasons for professional isolation: geographic isolation due to long distances, the fact that the new generation of doctors do not want to work alone but want to have a team around them, the aspect that nowadays people want to have diverse work experience and challenges of professional growth, which are difficult to achieve in peripheral areas. Other factors include that the lack of health care staff causes workload in small localities and that it is difficult to get to updating training from peripheral areas because of distances and high workload. Also management-related issues were mentioned, and the fact that someone may have a personality better suited to working alone than as a team member.

Four of the interviewees mentioned that in small, peripheral health-care units there are only one or a few doctors or nurses, in which case workload becomes excessive. In such a case, it is difficult to attend updating training courses, and there is no time for your own professional development. Nowadays, doctors of the new generation have a different attitude towards their work compared to the previous generation. They want to have a team and colleagues around as support, as well as challenges of professional development.

Two of the interviewees raised the importance of management for the experience of professional



isolation. The problem with management is that superiors do not necessarily have time to provide professional support for the staff.

Germany

The lack of time for contacting colleagues or visit advanced trainings to meet others and exchange experiences was named by four of the six respondents (GER E9, E10, E11, E12) as a factor leading to professional isolation. Another factor mentioned by one respondent was the status of a lone fighter in solo practice and wanting to be self-dependent (GER E11). One interviewee also stated that young professionals are more specialized then in the past and have more difficulties with creating networks (E13). As for one of the six GPs professional isolation is not existent, he did not name any factors (GER E8).

According to three of the seven representatives of health care institutions, the status of a lone fighter is the main factor leading to professional isolation (GER E3, E5, E7). The lack of time as another factor was stated by one respondent. He argued that high equipment acquisitions would lead to long working hours and therefore to professional isolation (GER E4). For two interview partners professional isolation results from doctors not creating personal networks with for example colleagues (GER E2, E6). Since for one of the seven representatives isolation is not existent, he did not name any factors (GER E1).

Altogether, five out of thirteen respondents named the lack of time for creating networks or contacting colleagues as a factor leading to professional isolation. One of them said that high equipment acquisitions are one reason for doctors to work long hours to be able to pay the bills. The status of a lone warrior as another factor was mentioned by three institution representatives and one GP. Three respondents also mentioned the inability of young professionals to create networks. One of each group stated that for them professional isolation was not existent and could therefore not name any factors.

Latvia

Experts expressed different opinions speaking about the factors leading to professional isolation. High workload, due to a large amount of work was mentioned by six respondents (four experts and two GP's). One of these experts points out: *"...It means that they (GP's) are spending very long time, many working hours doing their direct job and there is physically no time for contacts or time to search some kind of options for communication..."*.

Five respondents (three experts and two GP's) mentioned one's own individual factors (such as individual problems at work, a lack of social activity, ability to communicate and motivation). One of the experts said: *"I think that even if there is some kind of professional isolation for one or another physician then it is because of the physician's attitude... Perhaps he (physician) does not think that it is necessary to be involved in cooperation or contacts with other colleagues."*

There was also financial problems (such as low salaries and a lack of resources) and geographical factors (for example, large working areas and long distances to get to patients together with poor condition of road infrastructure) mentioned by four respondents (three experts and one GP). A



lower number of respondents also mentioned problems in the health care system, difficulties in intersectoral communication (for example, GP/social worker or GP/clinical psychologist), the aging of the medical staff, the lacking availability of internet technologies and problems to involve young professionals to work in rural areas.

Lithuania

The causes of professional isolation may be divided into internal and external causes.

External causes of professional isolation: The areas of knowledge for general practitioners are very broad. To know everything in detail is impossible or as one expert expressed it: *“The general practitioners are suppose to know medicine, paediatrics, traumatology, obstetrics, oncology – it is very wide knowledge. Some nuances can not always be known”* (LTU E9).

There are lots of medical information these days. The health care professionals identified as a cause of professional isolation that it is difficult to find relevant and reliable information. In addition general practitioners don't have time to search for additional information due to the high workloads. Experts are concerned that the Ministry of Health and employers don't care about health care professional's qualification and development. *“I work in the municipality, and I know how many events, courses to renew licenses are going on. But employers do not inform the health care specialists about these seminars and workshops. Health care professionals know from each other about these events. They are isolated. Employers request that doctors work well, but they are left for themselves to find out about these events.”* (LTU E10).

The factor of insecurity is another factor. There is no appropriate legal framework in Lithuania. The doctor, who shares his experience, will prevent other professionals of doing mistakes. But the law protects patients, but doesn't protect doctors. Health care professionals do not want to share their experiences and mistakes with others, because they are afraid of being accused for their mistakes.

Financial incentives is less importance, but it also has an impact. If nobody encourages the physicians, they get “stiff” and they are no longer interest in innovation.

Among the internal factors leading to professional isolation are on the one hand the lack of experience of the health care professionals to know where to find additional information, as one expert describes it: *“The professional inexperience, lack of knowledge there to find things fast.”* (LTU E3).

On the other hand the lack of motivation is leading to professional isolation as well. Due to the competition among health care professionals, not all of the doctors want to share their experiences and information.

Sweden

One expert mentioned attitudes, too heavy workload and unprofessional management structures as factors for professional isolation. One thought that difficulties in recruitment could lead to



professional isolation and one mentioned loss of competence, low salaries and social factors. Three experts thought that geographic factors such as distance to hospitals and to patients, lack of time and money to create a dialogue and network for contacts could also lead to professional isolation.

Summary

As a factor leading to professional isolation the countries Finland, Germany, Latvia, Lithuania and Sweden mentioned the high workload of primary care doctors in especially rural areas. As a result of this high workload, these countries and also experts from Estonia argued that there is a lack of time to create networks or contact colleagues for consultations or simple communication. Belarus and Latvia named the missing access to IT leading to professional isolation and the impossibility to improve one's qualifications. The geographical factor was pointed out by Estonia, Finland, Latvia and Sweden. A persons characteristics, the will and motivation in terms of working alone or in a team were named by Estonia, Germany and Finland as another general factor that could lead to professional isolation.

Compared to the literature review the expert interviews opened one new aspect, namely the characteristic of the medical personal. The literature showed that every country has its special circumstances and understandings of factors leading to professional isolation. As the factors like high workload, financial reasons and missing infrastructure in rural areas were mentioned by the experts as well as in the literature, the experts also pointed out the personal characteristics of the doctors in terms of rather working alone or that lead to professional isolation.



Table 3: Overview of factors leading to professional isolation³⁰

	Belarus	Estonia	Finland	Germany
Factors leading to professional isolation	<ul style="list-style-type: none"> •lack of accessibility to the IT •impossibility to improve one's qualification abroad •lack of cooperation with the specialists from other regions and countries. 	<ul style="list-style-type: none"> •a person's own characteristics, will and motivation'-little daily communication with other colleagues and it is not possible to consult about patients urgently since in rural areas primary care doctors mostly act in single-practices •no opportunities for teamwork and the chance to discuss the problems urgently that have emerged with other specialists from the same field'-time limitation 	<ul style="list-style-type: none"> •geographic isolation due to long distances •the new generation of doctors do not want to work alone but want to have a team around them •nowadays, people want to have diverse work experience and challenges of professional growth, which are difficult to achieve in peripheral areas •the lack of health care staff causes workload in small localities •it is difficult to get to updating training from peripheral areas because of distances and high workload •management-related issues • someone may have a personality better suited to working alone than as a team member. 	<ul style="list-style-type: none"> •the lack of time for creating networks or contacting colleagues as a factor leading to professional isolation •high equipment acquisitions are one reason for doctors to work long hours to be able to pay the bills •personal character of the GP •the status of a lone warrior •the inability of young professionals to create networks
	Latvia	Lithuania	Sweden	
	<ul style="list-style-type: none"> •High workload •one's own individual factors •financial problems •geographical factors •problems in health care system, difficulties in intersectoral communication , aging of the medical staff, availability of internet technologies and problems to involve young professionals to work in rural areas. 	<ul style="list-style-type: none"> •no time due to high workloads •Health care professionals do not want to share their experiences and mistakes with others, because they are afraid of being accused for their mistakes. •The lack of experience of health care professionals to know where to find additional information •Financial incentives •Lack of motivation 	<ul style="list-style-type: none"> •attitudes, to heavy workload and unprofessional management structures •difficulties in recruitment •loss of competence, low salary and social factors •geographic factors such as distance to hospital and to patients, lack of time and money to create a dialogue and network for contacts 	

³⁰ created by the author



3.2.2. Factors leading to brain drain

The factors leading to brain drain according to the experts is the topic of this chapter.

Belarus

The experts pointed out the following main reasons for brain drain: low remuneration of labour of a medical specialist, lack of social protection of a medical specialist, low rating of doctors among the population, inefficient organization of a medical specialist's work. Economic factors are considered to be the main factor influencing brain drain by the majority of the experts.

Estonia

When talking to experts about the causes of brain drain, all ten experts said that one of the main reasons for brain drain in Estonia and out of Estonia is the salary, but at the same time it was stressed that it is certainly not the only reason. The other factors leading to brain drain were the desire for better working conditions, better social surroundings and normal working hours. Social guarantees that are offered in some other countries were mentioned, too. Better conditions for self-development in foreign countries were also named, for example that in Estonia there are not so many interesting surgical procedures carries out. Therefore, in the surroundings that Estonia is offering medical professionals can not always put their real abilities into practice, neither in the rural areas nor in Estonia altogether.

Two experts (EST E3; E5) pointed out that brain drain in Estonia is often caused by the size of Estonia and also because of an attitude towards choosing a narrow specialty after graduating rather than a general practitioner's. The problem is that there are already enough specialists in certain specialities and because of that young medical professionals are unable to choose the speciality they would like to practice in the future and so they move to places where their choice is possible.

Factors leading to brain drain from rural areas were described in the following way: *“One thing is that people don't want to go and live there. And they don't want to live there because living there means that you must be surrounded by many other things what make living there habitable. Communication possibilities, means to grow for the family, a job for a husband or a wife it is a man (the doctor), a school and a kindergarten for the children. And if it is said here, that it must be a competitive school, it can't be like a bottom of top 100 or 200 schools. This all is looked at, that children have their places and also that this is harder in the country. And a family practitioner's life is harder in the country already for that reason that you can't, that you are forced to be maybe more alone there, maybe with more limited options, you are tied, you can't move away and another thing is that living in that community and working there, where you are, it means something completely else compared to living in the city you are somewhat incognito, after closing the door. But in there you are in the centre of this community, in the store, on the street, anywhere.”* (EST E2)



Better social aspects and better opportunities for the family in the city were also named by three other experts. For example one expert (EST E10) said that brain drain is a bigger problem in the rural areas, but added that it is the development of the whole society - urbanization and this problem doesn't concern only health care workers, but other field as well.

A few experts said that in Estonia there is a problem with the attitude of the society towards health care workers. For example in the rural areas doctor may often be more valued which makes working there maybe even better rather than for a young doctor working in the city. But some doctors may like the anonymity that working in a foreign country enables them, but this is a luxury which an Estonian family doctors working in rural areas can't have. One expert (EST E10) also emphasized the fact, that nurses are less valued in the Estonian society and may feel even more isolated than doctors.

Professional isolation as a factor for brain drain from rural areas to the cities was mentioned by six experts, but they didn't think it was the main factor. Four experts didn't find professional isolation to be important in the deciding process for a doctor whether to work in rural areas in Estonia or not.

Finland

As the key reasons for brain drain, the interviewees mentioned the following factors: the loneliness of work, a doctor's excessively large job description at a health centre, when competency needs and educational contents do not meet, the fact that living in a peripheral area limits other opportunities in life, the content of work may be one-sided and career opportunities lacking, the employment opportunities of all the family, and especially those of the spouse, as well as opportunities for hobbies may be scarce in a peripheral area, the fact that young doctors want to work in teams and where auxiliary examinations are available, the problem that wide generalist skills are required in primary health care as well as salaries that are not in proportion to the demands of the work and the lacking support by colleagues.

The interviewees also expressed their opinion as to whether brain drain can be compensated by economic incentives. Many of them thought it is possible to some extent but that it would not work for long. The content of work and opportunities for development at work are considered more important issues. Salary does not compensate for forced working pace, and economic incentives cannot be paid to such an extent that they would compensate for the spouse not finding work in the locality. Among the Finnish physicians, there are more and more women, and their husbands should find employment. No extra salary compensates for forced working pace, because they and their families also need leisure time.

Nowadays, only ten per cent of students of medicine would like to work in primary health care. In Finland, the qualifications for a generalist doctor are the highest in Europe. Two of the interviewees mentioned that young doctors want to specialize in special health care and work in a narrower sector, in which they can feel experts.

The interviews also showed that attractive employers and units attract employees, or receive brain



drain. Another unit of the same employer may suffer from shortage of labour. In primary health care, there has been a lot of brain drain from health centres to occupational health care.

A phenomenon typical of Finland is that young doctors want to work in teams; they do not want to work alone any more, i.e. pioneer types have become less frequent. For working, auxiliary examinations are more easily available at big units. The operations model of medicine has changed. Alone without proper auxiliary examinations (radiologic examinations and laboratory examinations), it is difficult to work as a physician. These auxiliary examinations are not available at small, peripheral units. Statistics also show that Finnish primary health care also suffers from an unquestionable lack of human resources.

Germany

For four of the six respondents in the group of the GPs personal aspects are leading to brain drain (GER E8, E9, E12, E13). One of them pointed out the fact that more and more women become doctors and for many of them it is important to arrange the job with the family which is very difficult as the only doctor in a practice (GER E12). Especially the work-life balance was mentioned as a problem in rural areas because of a higher workload (GER E8). Financial aspects leading to brain drain were named by three interview partners (GER E8, E10, E11). One interviewee mentioned the increased workload for professionals in rural areas because they have to adopt 90% of the specialised care, whereas the profits decrease (GER E11). Professional isolation itself being a factor causing brain drain was mentioned by only one interviewee. He argued that nobody wants to work where the direct human contact to for example colleagues is missing (GER E13). According to another respondent the bad image of the GP's job itself is a reason for brain drain (GER E8).

All seven representatives of health care institutions mentioned personal aspects as important factor leading to brain drain (GER E1, E2, E3, E4, E5, E6, E7). One of them named for example cultural activities, infrastructure and job possibilities or the job and education opportunities for partners and children (GER E3). According to three respondents financial aspects can lead to brain drain as well (GER E3, E5, E7). The factor professional isolation was also mentioned by three members of this group (GER E3, E5, E6). As well as in the GP group, one person from the representatives named the bad image of the job as a factor leading to brain (GER E6).

Altogether, 11 out of 13 respondents named personal aspects such as infrastructure, cultural activities, work-life balance, job opportunities and education for partners and children as factors leading to brain drain. Financial aspects were mentioned by six respondents. They referred to long working hours and less profit. According to four interviewees also professional isolation is a factor. The bad image of the job in general leading to brain drain was named by two persons, one of each group.



Latvia

Asked about factors leading to brain drain in Latvia, the majority of respondents (eleven out of the twelve) directly or indirectly indicated that the key factor that leads to the brain drain in Latvia are financial problems - such as low salaries and disproportion between wages and the amount of work. One of the interviewed experts underlined: *“These differences in salaries between Latvia and other countries are dramatically large. Physicians can work for a few days abroad and get the same or even more income compared to what they get when having worked in Latvia for a whole month”*.

Other main factors include a lack of possibilities to integrate in the labour market and aspects of individual living conditions. One of the experts also noted that population decline in Latvia leads to reduced need for medical services. From the GP’s point of view other main factors leading to brain drain are inability to realize their full potential and a lack of job offers. In addition, as less important but also influencing factors were mentioned information and illusions about the existing opportunities in other countries, a lack of opportunities for professional growth in Latvia, a lack of learning and communication opportunities along with poor working conditions leading to a negative psychological climate in medical institutions due to a disorganized health care system. One of the experts asserted: *“...I think that the idea of departure for many medical professionals arises not only because of low wages, but also because of this negative psychological climate prevailing in medical institutions. I think that physicians have to deal with patients’ dissatisfaction resulting from poor functioning of the whole system...”*

As additional factors leading to brain drain respondents also mentioned disorganized infrastructure, such as a lack of Kindergartens and long distances to reach schools in rural regions as well as physician dignity issues, factors related to work organization, excessive responsibility and inability to balance between private and professional life.

Speaking about the impact of professional isolation compared to other factors, the majority of respondents (five out of twelve) indicated that professional isolation is not an important factor influencing brain drain. Four other respondents believed that professional isolation is equally important compared to other factors, but the rest of the respondents could not form their opinion regarding this question.

Lithuania

Factors leading to brain drain are from the Lithuanian expert’s point of view financial reasons. Financial reasons may be low wages or low financial incentive. Doctors salaries are not adequate. Besides, this aspect is important, since it shows that doctor’s jobs are not properly assessed, and physicians are morally degrading. Interviewers indicated that motivation, work environment, conditions and relationships with co-workers are less important.

Another factor is that foreign countries are prepared to accept physicians from other countries. Countries such as Great Britain or Germany have a lack of specialists, which is compensated in attracting professionals from other countries or as one expert expressed it: *“<...> says the merchants come to Lithuania, looks around and looking for the people.”* (LTU E2)



Financial opportunities for young professionals are very important reason to move abroad. It is very difficult to create a good life in Lithuania for young people, which is underlined by one expert with the following statement: *“A graduated PhD lives in a dormitory just because he can not get his own place, because he can not take a loan from the bank, because his salary is too low”* (LTU E2).

It is important to mention that the experts identified that the financial reason should not dominate for the real health care professionals as he formulates: *“<...> the doctor is suppose to be more than a craftsman. The moral value has to be more important. For the real health care professional the salary should not be the dominating aspect.”* (LTU E4)

However three interviewees objected and said *“The doctors salaries are not bad”* (LTU E4).

There are several external causes for brain drain. Important causes are poor working conditions, the environment or bad public attitude. Less important is motivation and salary. Respondents are not satisfied, that they can not fully perform their direct labour, to communicate with patients and treat them as they are responsible. Doctors should do extraneous features, such as administrative work. The patients identify this problem too, all the time when doctors do not upraise their eyes, only completing the documents. The opposition can be seen: doctors are not happy that they feel the negative attitudes of patients and patients that doctors are not paying enough attention. So, neither doctors nor patients can be blamed, because it is more a problem of a complex system.

Among the internal causes are the motivation and the desire. Five respondents said that the most important thing is the motivation and the desire to excel. If a person is motivated, willing to grow and work, he/she will be satisfied with his/her job and therefore will not want to go anywhere or to change the job. The financial motive is regarded as not so important. *„Motivation first. Motivation is stimulated not only financially, but also financially. If a person is motivated to work well, to earn money, to satisfy their activity <...> will not run to Ireland or to Klaipeda”* (LTU E1).

However, the motivation may act vice versa. For young health care professionals there are better conditions to improve and gain new knowledge abroad. This motive can promote to move. One more reason to move abroad is *“psychological activity”* (LTU E4). People with an active and dynamic personality are more likely to leave, because they are still looking for new life experiences. Another expert underlines that the social and cultural aspects are important, too (culture, country, marriage). Some health care specialists are simply fascinated by the other country during conferences, student exchange programs or others.

Sweden

Two experts thought that too small organisations and working alone could lead to brain drain. Three experts mentioned unattractive living conditions such as the social situation for the family. One expert expressed it this way: *“You move where you want to live not where you want to work”*. The other experts mentioned recruitment problems and a low status of the work in primary care, political and financial requirements that lead to the loss of good co-workers and that important factors are the salary and too little “competence improvement” education.



Summary

All countries named financial reasons, meaning low salaries, as factors leading to brain drain. Finland even said the salary is not in proportion to the demand of the work and that the content of the work may be one-sided in peripheral areas. Estonia, Finland, Germany, Latvia, Lithuania and Sweden also mentioned the lacking social surroundings and bad work-life-balance for doctors in rural areas and their families as well. Another factor leading to brain drain is according to Estonia and Germany the bad image of the job, meaning the negative attitude of the society towards health care workers. Finland, Latvia and Sweden mentioned missing career opportunities and a lack of job offers in rural areas. Only Belarus stated the lack of social protection for medical specialists.

Compared to the literature review, the expert interviews confirmed the mentioned aspects. The main factors leading to brain drain are salary problems, bad working conditions and lack of job opportunities in rural areas for doctors and their families.



Table 4: Overview of factors leading to brain drain³¹

	Belarus	Estonia	Finland	Germany
Factors leading to brain drain	<ul style="list-style-type: none"> •low remuneration of labour of a medical specialist •lack of social protection of a medical specialist •low rating of doctors among the population •inefficient organization of a medical specialist's work. •Economic factor is considered to be the main factor influencing on the brain drain by the majority of the experts. 	<ul style="list-style-type: none"> •salary •desire for better working conditions, better social surroundings and normal working hours •Better social aspects and better opportunities for the family in the city •the attitude of the society towards health care workers •Professional isolation 	<ul style="list-style-type: none"> •the loneliness of work •a doctor's excessively large job description at a health centre, when competency needs and educational contents do not meet •living in a peripheral area limits other opportunities in life •one-sided work content •career opportunities lacking •the employment opportunities of all the family, and especially those of the spouse •scarce opportunities for hobbies •young doctors want to work in teams and where auxiliary examinations are available; •wide generalist skills are required in PHC •Salary is not in proportion to the demands of the work •support by a colleague may lack 	<ul style="list-style-type: none"> •personal aspects like infrastructure, cultural activities, work-life balance, job opportunities and education for partners and children •Financial aspects '- professional isolation •bad image of job
Factors leading to brain drain	<p>Latvia</p> <ul style="list-style-type: none"> •-financial problems •a lack of possibilities to integrate in the labour market •aspects of individual living conditions •population decline in Latvia •inability to realize their full potential and a lack of job offers •information and illusions about the existing opportunities in other countries •a lack of opportunities for professional growth in Latvia •lack of learning and communication opportunities •poor working conditions with negative psychological climate in medical institutions due to disorganized health care system'- •disorganized infrastructure, •physician dignity issue •factors related to work organization •excessive responsibility •inability to balance between private and professional life 	<p>Lithuania</p> <ul style="list-style-type: none"> •-Financial reasons •motivation •work environment •conditions •relationships with co-workers 	<p>Sweden</p> <ul style="list-style-type: none"> •too small organisations and working alone •unattractive living conditions such as the social situation for the family •recruitment problems and low status of the work in primary care •political and financial requirements that lead to loss of good co-workers •salary and too little "competence improvement" education 	

³¹ created by the author



3.3. Effects of professional isolation and brain drain

According to the literature review the main effects of professional isolation and brain drain are described in studies provided in Germany and Finland. Loss of quality, longer waiting times, increase of isolation and workload increase of hospitals are the key effects in Germany, but lack of physicians in remote areas, risk of being over-loaded by work, having too much responsibility, and lacking support of colleagues in Finland. Other countries do not have studies that directly concentrate on the effects of professional isolation and brain drain, but such effects as emigration, work outside the profession, retirement, and decreasing of accessibility of medical care were found by the experts of health care³².

In the next chapter the findings from the experts on the effects of professional isolation and brain drain are summed up.

3.3.1. Effects of brain drain

Belarus

The most serious consequence of the brain drain was marked by the experts as the increase of dissatisfaction of the healthcare system by the people. They also marked the decrease of PHC and specialized medical care accessibility.

Estonia

All experts stressed the fact that in the case of brain drain growing it will mostly effect the quality of medical care. Waiting lists to see a doctor are longer because of the high number of doctors who are leaving and that leads to a bigger working load for the doctors who stay. This may lead to mistakes in the treating process which plays a big role in patient safety. At least one expert said that in the light of growing needs for doctors it is seen that workers will be soon brought in from Russia and other countries from Eastern Europe.

If doctors are moving more and more from rural areas to the cities it increases the chance to get isolated for doctors who stay, because there isn't a colleague nearby with whom to consult in case of need. It also means that many rural areas are left without a primary care practitioner because it is difficult to find a new doctor. One expert (EST E2) said it may lead to a situation where different doctors are working with one practice list, each doctor in a different day and the patient doesn't have a certain person who knows a lot about him. *"It was an ideal that we dreamt about 20 years ago, that everyone has their own doctor and he knows the patient as long as he lives, 20-30 years and then I know everything about him. That is like an ideal model, but then again it is not, then*

³² PrimCareIT (2012, p. 75)



there is one for two weeks and another for two weeks./.../ Don't know what has been done before, what will come after and maybe then when I know that I am there for two weeks, I will not pay as much attention, I won't bring these things to an end and say that in two weeks time my time here ends anyway and I will leave some things unfinished. I don't know. I think that it still may end with the question of patient safety." (EST E2)

The migration of health care workers to other countries is definitely a big problem for Estonia (EST E9). Two experts (EST E3;E1) thought however that this kind of brain drain should not be taken so tragically because in some way it is our doctors' luck that they can go and educate themselves in some other places. One expert (EST E7) said that of course there are some positive things about doctors working in other countries, but in the condition that they will eventually come back. A few of the experts said that temporary brain drain has its positive outcomes and many experts supported working abroad for some time. When a health care worker goes away for a time, he will get new experiences, new ideas that are worth a lot and help to organize work better in Estonia and have also positive effects on teaching other family doctors and on the development of health care centers. In that way it helps to prevent isolation. The only important issue in this regard is that the health care workers return to Estonia.

Finland

The interviewees mentioned similar consequences of brain drain. More than half of them pointed out that labour force will disappear. Those with the highest level of education will leave. Units will fade out, and it will be necessary to think of new ways of cooperation. It will not be possible to produce services of primary health care if there are no actors around. This concerns all the professional groups of health care; it is about the entire system. Then, you will become part of larger service provision systems, and local services will end. Some of the respondents said services will end or be selected; local services or primary health care services will remain in peripheral areas. Not even consulting a doctor will necessarily be a local service any more, because auxiliary services, e.g. laboratory services, will not be available. Local services are services concerning almost the entire population; e.g. a child health clinic is an example of a local service. This will result in lack of local knowledge, and special features will not be taken into account.

Some of the respondents thought all the services would be concentrated and that Finland is now only at the beginning of the concentration of services. In ten years, every cooperation area will have only one point providing e.g. medical services. Old municipal doctors will then be starting to achieve the age of retirement. Finding the right size for the operational area is important; it should neither be too small nor too large.

The influences can be seen in the problems with arranging for public primary health care services. Brain drain may have considerably increased the use of the public sector and purchased services. Consequently, the influences are eroding primary health care. When the basis falls, also the availability and use of special-level services will end up in trouble and the health-related isolation



process will begin.

Likewise, half of the respondents said the influences will also be seen in the quality, impact and availability of services. When actors change or run out, long-term care relations will not be formed, which will affect the coping of the chronically ill. “Gig doctors” will not respond to the challenges of long-term development work. Development work will lag behind, and long-span development will be weakened.

All the respondents mentioned that brain drain is a real problem, leading to much deterioration, even to the erosion of primary health care. From clients' perspective, the worst problem is the weakening of the quality of local services and the restriction of their availability or their total disappearance.

Germany

Three of the six GPs mentioned a lower quality of patient-centred care being an effect of brain drain (GER E10, E11, E12). Other three interviewees stated that especially longer distances and waiting hours will be results, too (GER E8, E9, E12). One named an additional burden for hospitals as a possible effect of brain drain, meaning that more patients go to hospitals directly instead of going to an established professional (GER E8). As for one of the six representatives brain drain is not existent, he did not mention any possible effects (GER E13).

All seven representatives of health care institutions mentioned longer waiting hours and distances for patients as effects of brain drain (GER E1, E2, E3, E4, E5, E6, E7). Two persons named the effect of lower quality care that patients have to suffer from (GER E4, E6). One reason for this is that there will be more and uneconomic work for physicians in rural areas (GER E6). According to one respondent another effect of brain drain will be a higher workload for hospitals, because they are easier and faster to reach for many patients (GER E5).

Altogether, ten out of 13 respondents mentioned longer distances to the closest GP and longer waiting periods for the patients as effects of brain drain. Five interviewees named a decrease of quality in terms of patient-centred care. Reasons for this are the higher workload and lower profits of physicians. One representative from each group stated that hospitals will be faced with an additional workload as an effect of brain drain. As for one respondent brain drain is not existent, he did not name any effects.

Latvia

Asked about the effects of brain drain, the majority of respondents (eleven out of twelve) directly or indirectly mentioned reduced access to health care services caused by such factors as inability to involve new specialists to work in the rural areas leading to limited choice of physicians together with long waiting lists, which prolongs waiting time for necessary health care services. There are also problems for GP's to refer patients to specialists because there is a lack of physicians to choose from in the rural areas causing problems for GPs to get high-quality feedback. This feedback is very important in the process of treatment. One of the GPs noted: *“If I need qualitative otolaryngologist's consultation, what can I do? If there is a patient sitting in front of me, who is*



capable to go to consultation to Riga – I know that everything is going to be fine and this feedback from specialist will be reliable and I can trust it. But if I have a patient in front of me, who cannot go further than Daugavpils, unfortunately feedback from this specialist from Daugavpils cannot help me, because I can't rely on this information”.

These above described factors create a negative attitude towards health care and health policy from the patients and the GP's point of view and also create tension in the whole sector.

Lithuania

The effects of brain-drain are named as decreasing quality of service, ageing of population and detriment for the State.

The biggest risk is that the quality of health service will decrease because of brain drain. It will happen, because there will be a lack of professionals. Also, patients will be waiting longer for service. The threat of greater health problems to appear will become bigger. Opinions about what kind of professionals – the gifted or less gifted – are leaving, did not match. Some named that the most gifted are leaving, while others did not approve this statement. The population of health care professionals is ageing, because people in age able to be employed are leaving Lithuania. “<...>, because in the future there will be a lack of professionals, because the society is ageing, health care professionals are the same, there will be more old people, demand of health care service will increase in the future <...>” (LTU E7).

Another effect of brain drain is the disadvantage for the Lithuanian State. Preparation of health care professional is four years and the investments are large. To prepare a professional for other States is not profitable for the country Lithuania.

Sweden

Three experts said loss of competence but also distance to patients and too few personnel are effects of brain drain. Two other experts mentioned that health care professional's lack of competence and that expensive co-workers (a physician, usually a general practitioner, temporarily working in a clinic or other medical facility to fill vacancies that could not be filled by permanent staff) with less competence make no good primary care.

Summary

When it came to the effects of brain drain almost all countries named the decreasing quality of health care services in rural areas. Estonia even mentioned the effect of medical workers being brought in from Eastern Europe, to compensate the missing workforce, whereas Belarus talked about the population's dissatisfaction with the health care system. According to Finland, Germany, Latvia and Sweden other effects of brain drain are the longer distances and waiting hours for the patients. Germany, as only country, mentioned the higher workload and lower salaries for doctors, rotted in the remuneration system of German health care, and also additional work for hospitals.



Only Estonia named a positive effect of brain drain. It would in a short term lead to more professionals going abroad, which improves their education.

Compared to the literature review, where the main effects of brain drain are only described in studies provided in Germany and Finland, some new aspects were opened by the experts. As the literature mentions the effects loss of quality, longer waiting times, workload increase of hospitals and lack of physicians in remote areas, the experts named more specific effects like lower salaries and, the population's dissatisfaction and also a positive effect.

Table 5: Overview of effects of brain drain³³

	Belarus	Estonia	Finland	Germany
Effects of brain drain	<ul style="list-style-type: none"> •as the increase of dissatisfaction of the healthcare system by the people •the decrease of PHC and specialized medical care accessibility. 	<ul style="list-style-type: none"> •it will mostly effect the quality of medical care •mistakes in the treating process which plays a big role in patient safety' •ill be soon brought in from Russia and other countries from Eastern Europe •it increases the chance to get isolated for doctors who stay, because there isn't a colleague nearby with whom to consult in case of need •temporary brain drain has its positive outcomes and many experts supported working abroad for some time 	<ul style="list-style-type: none"> •labour force will disappear. •those with the highest level of education will leave. •units will fade out, and it will be necessary to think of new ways of cooperation •lacking possibility to produce services of primary health care if there are no actors around •patients will become part of larger service provision systems, and local services will end. •services will end or be selected •local services or primary health care services will remain in peripheral areas •not even consulting a doctor will necessarily be a local service any more, because auxiliary services, e.g. laboratory services, will not be available. •lack of local knowledge, and special features will not be taken into account. 	<ul style="list-style-type: none"> •longer distances to the closest doctor and longer waiting periods for the patients •a decrease of quality in terms of patient-centred care •higher workload and lower profits of doctors •additional workload for hospitals
		Latvia	Lithuania	Sweden
	<ul style="list-style-type: none"> •reduced access to health care services •limited choice of physicians •long waiting lists which prolongs waiting time for necessary health care services •problems for GP's to refer patients to specialists because there is a lack of physicians to choose from in the rural areas causing problems for GP's to get high-quality feedback •negative attitude towards health care and health policy from the patients and the GP's point of view and also create tension in the whole sector 	<ul style="list-style-type: none"> •-decreasing quality of service, ageing of population and detriment for the State 	<ul style="list-style-type: none"> •-loss of competence •distance to patients •too few personnel •health care professionals lack of competence and that expensive co-workers (a physician, usually a general practitioner, temporarily working in a clinic or other medical facility to fill vacancies that could not be filled by permanent staff) with less competence makes no good primary care 	

³³ created by the author



3.3.2. Effects of professional isolation

The effects of professional isolation named by the experts are summarized in this chapter.

Belarus

Among the consequences of professional isolation the experts pointed out the decrease of the quality of rendered medical care to the people, decrease of the prestige of a doctor's profession, increase of brain drain and dissatisfaction by the people about the healthcare system.

Estonia

Nine experts out of ten brought out that the most important effect of professional isolation is the decrease of quality of medical care, primarily in patient safety, because the number of errors and mistakes may increase. Not to be able to consult with colleagues, share and receive the newest information and participate in training – all these things lead unavoidably to professional isolation, and this leads to mistakes in the treating process. *“One thing is that this professional isolation, that I don't have the chance to ask advice, I don't have the chance to evolve, I don't have, as a doctor [...], don't have the chance to accomplish all of this. Has stayed with the old habits, maybe, maybe don't see where are mistakes that he makes systematically. Nobody is standing aside to say it, that it may play into patient safety, I think so.”* (E2)

At least three experts found that professional isolation may have an effect on the mentality of the doctor who is isolated. It leads to stress, burning out and even depression and that because there isn't an opportunity to unload.

One expert (EST E3) also pointed out that more research in the field of professional isolation and its consequences is needed.

Finland

As a result of professional isolation, people stick to old practices, resist change and build protective walls. The new Health Care Act is good, because it requires the assessment of operations and the setting of focal areas for development, instead of developing all possible things at once. In peripheral areas, people may begin to think that familiarity produces quality, even though it may also be the other way round.

Professional isolation causes a great risk that the quality of operations in the organisation will be reduced. The importance of supervision by the superiors of the organization will be emphasized in this. If you work alone and do not participate in training courses, isolation may occur. In such a case, the employee's knowledge and qualifications will lag behind. This, again, will increase the risk of errors in work. Ignoring the developments of medicine is the most serious professional challenge, which, after a certain point, may even threaten the change of jobs. The experienced problem related to knowledge will soon become a problem of self-esteem and mood.

Most of the respondents said that the influences are seen in the quality, impact and availability of services.



Germany

Four of the six GPs stated that an effect of professional isolation is the lower quality of patient-centred care (GER E9, E10, E12, E13). One of them gave the example that patients will not feel secure and in good hands anymore (GER E13). Reasons for this degradation may be a higher workload, a lack of time and excessive financial demands (GER E9). According to two persons there will also be a lack of control for the professionals in practice (GER E10, E11). One interviewee stated that networks also have an advisory function, which will be missing in professional isolation (GER E11). As for one respondent professional isolation does not exist, he did not mention any effects of it (GER E8).

Three of the seven representatives of health care institutes did not answer this question. They explained themselves with the opinion that professional isolation is not existent (GER E1, E2, E4). Three interview partners stated that a lower quality will be an effect of professional isolation (GER E3, E5, E6). According to one person patients would have to suffer from long distances to the next doctor and long waiting periods (GER E3). Only one respondent mentioned a positive effect in the context of education and professional isolation. He said that future GPs get a better education to be able to work in a wider field of general medicine and are therefore not as much dependent on their colleagues (GER E7).

Altogether, seven out of 13 respondents named lower quality as an effect of professional isolation. They mentioned especially longer working periods because of higher workloads of professionals. Two GP's stated that a lack of control and advice for doctors will be another effect. One person from the group of institutions' representatives said the better education of students will be a positive effect. Four respondents did not name any effects holding the view that professional isolation does not exist.

Latvia

Respondents expressed different opinions speaking about effects of professional isolation. Five out of twelve respondents mentioned effects associated with the lack of information sharing processes. Respondents noted that professional isolation reduces professional growth and opportunities for personal development, possibilities to follow the latest innovations in the medical field (for example, technologies and treatment) and a chance to discuss medical issues. These factors can lead to dissatisfaction with the doctor's own work and a decrease in the quality of his work. One of the interviewed GPs pointed out: *"You sit in your cave and think that everything is even pretty fine, you have neither time to read some scientific journal or some article, nor time to go to conference or seminar. Then this Clofelin is the standard medicine for arterial hypertension. It lowers blood pressure, but what about the quality of life?"*

Seven respondents answered indirectly: One of the experts confirmed that the effect exists, but also underlined that there is no scientific evidence to determine the extent of its possible impact. Other expert noted that professional isolation is not the most important factor affecting rural areas. Three other respondents answered in opposition to this argument saying that greater effect of professional isolation is or may be in the regions with low population density (mainly because of the large distances to other facilities). One other expert, however, argued that the effects of professional isolation do not depend on



the region, but depend on the type of institution, where the physician is practicing (individual GP's practices or GPs working in one institution together with several other specialists).

Lithuania

The biggest effect of professional isolation is on the quality of health care service. A doctor with a lack of knowledge will harder solve a health problem. The patient will suffer from that, *"because of professional mistakes, "poor endings" are possible"* (LTU E9). Misunderstandings with other institutions, such as social insurance companies, health insurance funds or others are also possible.

Professionals working in rural regions are most likely at risk to be professionally isolated. They lack information, they increase their qualification irregularly, they do not have someone to consult when having questions. One expert described the situation in the following way: *"<...>, unevenness, if talking about inner country, is between villages, regions and cities. That professional isolation which, to my mind, is more often found in rural areas, when information about laws, political decisions or reasons, why it should be done like this or that, are just not reaching those outer corners and the professionals are feeling contraposition, because they are not informed about decisions being made (LTU E7)"*.

Another effect of professional isolation is that general practitioners send their patients to more qualified specialists for a consultation because of a lack of information. These consultations are more expensive. The health care system therefore undergoes heavy expenses, when problems which must be solved in primal level, are moved to secondary or third level. If general practitioners had an opportunity to consult other professionals, the expenses would be decreased, time of patients and doctors would be saved, and treatment would be prescribed and started earlier.

Sweden

The experts mentioned as general effects of professional isolation: no identical primary care, reduced knowledge among the professionals and a heavy work load, which enlarges the feeling of not being able to do a good job. Two experts also mentioned expensive co-workers with less competence that affect the quality in primary care.

Summary

When it came to the effects of professional isolation, all countries mentioned the lower quality of health care services. Germany, Finland and Sweden added a higher workload and a lack of control and advice for doctors as effects. Belarus also named the decrease of the prestige of a doctor's profession and Lithuania presumed higher expenses for the health care system.

Compared to the literature review, the experts opened some new aspects. The effects of professional isolation mentioned in the literature of Germany and Finland, were the workload increase, too much responsibilities, a lack of support from colleagues. The experts also named the lower quality of health care in general, higher expenses and the decrease of the prestige of a doctor's profession.



Table 6: Overview of effects of professional isolation³⁴

	Belarus 🇧🇪	Estonia	Finland	Germany
Effects of professional isolation	<ul style="list-style-type: none"> •the decrease of the quality of rendered medical care to the people •decrease of the prestige of a doctor's profession •increase of the brain drain and dissatisfaction of the healthcare system by the people 	<ul style="list-style-type: none"> •the decrease of quality of medical care, primarily in patient safety, because the number of errors and mistakes may increase •an effect on the mentality of the doctor who is isolated. It leads to stress, burning out and even depression and that because there isn't an opportunity to unload. 	<ul style="list-style-type: none"> •people stick to old practices, resist change and build protective walls •in peripheral areas, people may begin to think that familiarity produces quality, even though it may also be the other way round. •professional isolation causes a great risk that the quality of operations in the organisation will be reduced 	<ul style="list-style-type: none"> •quality as an effect of professional isolation •longer working periods because of higher workloads of professionals •lack of control and advice for doctors •the better education of students will be a positive effect
	Latvia 🇱🇻	Lithuania 🇱🇮	Sweden 🇸🇪	
	<ul style="list-style-type: none"> •with the lack of information sharing processes •reduces a professional growth and opportunities for personal development •reduced possibility to follow the latest innovations in the medical field (for example, technologies and treatment) and a chance to discuss some medical issues •dissatisfaction with the doctor's own work and decrease in the quality of this work 	<ul style="list-style-type: none"> •lower quality of health care service •Misunderstandings with other institutions – social insurance, health insurance fund •General practitioners send patients to more qualified specialists for a consultation because of lack of information. These consultations are more expensive. Health care system undergoes heavy expenses, when problems which must be solved in primary level, are moved to secondary or third level 	<ul style="list-style-type: none"> •no identical primary care •reduced knowledge among the professionals •heavy work load which makes the feeling of not be able to do a good job •expensive co-workers with less competence that affect the quality in primary care 	

³⁴ created by the author



3.4. Solutions counter-acting brain drain and professional isolation

3.4.1. General solutions

Different solutions can be found that help counter-acting brain drain. The following chapter deals with the solutions that help according to the interviewees.

Belarus

In the experts' opinion, it is important to increase social protection of doctors, prestige of the profession of a doctor, improve organization of work of medical specialists to counteract the brain drain.

Estonia

All experts thought that the main solution to counter-act brain drain is to bring more money to the Estonian health care system. Two experts (EST E4;E9) found that one of the most important things to stop brain drain from Estonia is to increase doctors' salary. On the other hand, problems related to it were mentioned. *"We can't compete in wages, this is a fact. There will not be a political decision, that health care will get three times as much money or whatever."* (EST E9). Two experts (EST E2;E9) shared an opinion that addition to raising salaries, money should be directed to health care system so better working conditions could be ensured and developed. Both of them thought that it was important that also society supports the doctors because currently they rather feel social criticism towards them. Training of other professions who support doctors and nurses for the health care system was found important by the experts as well.

To the question, if Estonia should somehow start to control brain drain, experts answered that rather not, because it would get in conflict with persons right to move freely, which is one of the core values of Europe. In addition to this, it would be hard to organize and other countries would not see their gain in it. But one expert (EST E6) emphasized that joint training and practices, sharing information and trust aren't only important within a country, but also between countries, because it makes the Baltic Sea Region a safer environment to work in.

Some experts saw as one solution developing so called family health centers in rural areas for decreasing the movement of health care workers to cities and it should also decrease professional isolation. One expert (EST E6) found that those centers could be connected to other centers and hospitals through e-solutions, which also could reduce professional isolation. One of the experts (EST E8) did not agree with the idea of health centers and thought that it is more important that primary care should stay close to the patient. E-solutions were seen as a partial problem solver also by two experts (EST E2;E9). According to one of them (EST E9) the government is willing to invest in the development of all kinds of e-solutions. One professor (EST E2) said that e-solutions definitely could not replace face to face communication but they could compensate it in some extent. She also mentioned the possibility to organize e-courses in addition to electronic communication. One expert (EST E9) found that these



solutions could help to save valuable time and through that could spare the doctor.

According to one expert (EST E10) there are lot of other social problems that should be solved to counter-act brain drain. For example the public transport system should be improved, money should be directed into developing the schools that are situated in the rural areas, so that people now living there are animated to stay there.

Finland

One interviewee said brain drain cannot be prevented completely by anything. It has always existed and always will. On the other hand, some mobility among workforce is positive. The preventive means are working conditions and salary. Regarding nursing staff, the biggest challenge is salary; doctors already have their salary issue fixed. Work pace at a health centre is hectic.

Another key question is how primary health care will be secured. In Finland, special health care and primary health care have been blended. There are serious considerations at the national level as to how to organize the administration, economy and production of health care services. There is no need to concentrate services if sufficient resources can be granted for peripheral areas. Consequently, the solution may be in different factors increasing interaction and communication.

Service structures should be transformed from client-based into client-focused, and operations models should be developed accordingly. This might interest professionals and prevent them from moving to other areas.

In South Ostrobothnia and in Finland, there should be a shift to bigger organizations providing health care services, regional social and health care actors, in which primary health care, special health care and social services would be placed together. The current operations model is problematic, because the actors of primary health care operate separately. If there were only one administrative unit, the key concern of the unit would be how to implement the services of primary health care. At the moment, the sole concern of the special health care district is the production of special health care services.

The reasons for brain drain should be tackled, and there are several ways to do this. As the key means, the respondents mentioned working conditions and influencing them: workload, reduction of the number of short-term contracts among nursing staff, taking into account the demands of work in relation to salary, mentoring and support by colleagues, good managerial practices, as well as opportunities to participate in updating training.

Two of the respondents also wanted to have systematic opportunities for different contacts and operational units big enough in relation to population. In Finland, also opportunities to collect training points through updating training should be improved. As solutions, also support to sense of community, intellectual challenges, and career development opportunities were mentioned.



Germany

For half of the GPs, namely three out of six, the rise of a GP's reputation in general was named as the most important solution against brain drain (GER E8, E10, E11). It was stated that due to the bad reputation less and less young medical students decide for a specialisation in family practice (GER E8). Two GPs named as a solution against brain drain the provision of better infrastructure (GER E8, E13), especially for families, and the creation of financial incentives (GER E11, E12). Concerning financial incentives, the GPs underlined that low-interest loans would be very important (GER E12) and help young physicians more than start-up capitals (GER E11). Connecting both factors, on the one hand the financial and on the other hand the reputation, creates the factor of a better honouring of the GPs work in rural areas, as suggested by one GP (GER E12). The solutions counter-acting brain drain named by one person each include the establishment of further institutes of family medicine at the universities (GER E10), an enlargement of the GP's margin of discretion (GER E8), a more flexible administration system (GER E11), the idea that the medical association builds practices for the young professionals to rent (GER E12) or the claim to educate more medical students (GER E10) as well as the affiliation of practices to university hospitals to sensitise the students as early as possible in their education for the GP's work (GER E9).

Among the institution's representatives the solution named by the highest amount of interviewees is the establishment of centralized specialty centers, such as medical care centers (GER E2, E4, E5). In contrary, one of them stated that on the other hand this concept would conflict with the paradigm of care close to the patient's home (GER E3). In the same direction, linking to the idea of cooperation, are two other experts thinking: namely the establishment of more cooperation practices in central places. In their opinion those do not have to be medical care centers. They rather think about practice cooperation (GER E3, E7). Another solution named is the mobilization of the patients (GER E1, E7). Other solutions suggested by one representative each include the rise of the reputation of GPs (GER E6), the creation of infrastructure for families (GER E5), the establishment of financial incentives (GER E5), the rise of attractiveness of the GP's work (GER E3), the affiliation of practices or medical care centers to hospitals (GER E1) or the inclusion of other medical staff for patient's visits, such as nurses or MTAs for blood sugar measurements (GER E6). Also, the mobilization of the physicians in the so called DocMobil (GER E2) was named as an option as well as the creation of more flexible working conditions for GPs (GER E6).

In total, the reputation rise is seen as the most important solution for counter-acting brain drain of health care professionals from rural areas in Germany. This aspect was named by four of the 13 interviewees. The infrastructure for families and financial incentive are with three namings on the second place together with the creation of centralized specialty centers. This last solution has only been named by institution's representatives. The same applies for the mobilization of patients and the creation of cooperation practices. Named by a representative from each group was the fact of increasing the work attractiveness of a GP, which goes hand in hand with the reputation of the GP.



Latvia

The vast majority - nine out of twelve respondents (four experts and five GPs) answering this question indicated the necessity to increase funding directed to health care in general and for medical personnel salaries. One of the experts talking about the present situation in the Latvian health care system financing mentions: *“All these years Latvia has been among those three countries in which the lowest per cent of GDP is directed to the health care system. For systems functioning normally a normal amount of finances are needed, but for us, this amount all the time has been insufficient.”* Another respondent had a substantively different point of view about the solutions that could help counter-act brain drain. He emphasized the meaning of adequate amounts of work and adequate wages. Additional to aforementioned, experts referred to such solutions as change of public attitude, growth of physician profession dignity and prestige, increase of professional career opportunities, social guarantees and arrangement of social environment, feeling of perspective and stability of the health care system, increase in rural area population, adequate work-pay ratios as well as employment opportunities and additional financial support particularly in rural areas.

One of the interviewed GPs emphasized as an important factor the socio-economical situation among patients: *“Why did I learned all this and why am I doing this, if my patients are so limited in their financial possibilities that they can neither go to examination, nor buy medicine”*.

Some other expert indicated that tele-consultations and tele-mentoring are possible solutions, but in this case mentioned as obstacles the aging of medical personal, old colleague's disinclination and a lack of skills to work with new IT-technologies. On the other hand there is an opposite point of view that IT-technologies won't change anything, including physician's attitudes.

Lithuania

The questioned experts named the following solutions for counteracting brain drain:

If it was indicated that health care professionals leave because of financial reasons, then the solution would be to enlarge the payment and additional financial drive. Moreover, it is very hard to change people's attitudes and those factors which are not related to financial reasons. So, enlargement of payment would be the most effective way to solve brain drain problems, which is underlined by the following statement of one expert as well: *“Financial, the only. One will not change thinking of all Lithuanian people, because it depends a lot on the attitude of people”* [Expert 9]. The whole health care system is financed insufficiently. Some doctors stated that the health insurance should be increased and expressed this opinion: *“The tariffs of health care service should correspond to their real offered inputs”* (LTU E5).

Another solution named is that doctors should be given conditions to administer their direct functions and lessen those activities, which are secondary and not associated directly to the job of a doctor. A physician should accomplish his direct functions. One expert put it this way: *“<...> reconsideration of functions of primal health care professionals, rectification of doctor's true activity”* (LTU E3).



The importance of changing the attitude towards physicians in society was also named. Physicians should be respected and patients should trust them and their jobs should be appreciated. The increase of motivation of health department professionals is another solution that was mentioned by the experts. Not only the society, but the doctor himself must respect his/her profession and commit him/herself to it. Moreover, good operating conditions should be given, both physical, and psychological and it should be pleasing to work in his/her workplace.

Another solution that health care professionals suggest is a fee covering all study expenses. A person who has finished studies, should work a few years in Lithuania so that the same would be returned what was put in a student by the state. If a person wants to go abroad after having finished his/her studies, he/she should have to pay for the study years, which were financed by the state. One expert expressed it this way: "*<...> a system would run – you finished studies, worked for three or five years, gave the State your tribute, then you can leave, if not, you must pay*" (LTU E4). But there are also objections from the European Union to a system like that.

Sweden

Regarding solutions on counteracting brain drain the Swedish experts mentioned the following aspects: make changes in social structures to simplify to live in the country side, make it interesting to work within primary care in rural districts, and create individual solutions -for example individual salaries and easy access to support by tele-consultation and extended continuous education. One expert said, "*It's about giving an opportunity to work in a rural area to the right person*" and "*It's about finding young physicians and give them a fair work-load and support to get them to stay*".

Summary

When it came to solutions to help counteract brain drain, all countries named the creation of better working conditions and especially higher salaries for medical professionals. Belarus, Estonia and Lithuania also mentioned the creation of a better image of doctors and a higher motivation to work in rural areas. Estonia, Finland, Germany, Latvia and Sweden stated that solutions would be better infrastructures, job opportunities for family members and a social environment, to make rural areas more attractive. Tele-consultation and tele-mentoring solutions were mentioned by Latvia and Sweden.



Table 7: Overview of solutions counter-acting brain drain³⁵

	Belarus 🇧🇪	Estonia	Finland	Germany
Solutions that help counter-acting brain drain	<ul style="list-style-type: none"> it is important to increase social protection of doctors, prestige of the profession of a doctor, improve organization of work of medical specialists to counteract the brain drain. 	<ul style="list-style-type: none"> to bring more money to Estonian health care system increase doctors' salary money should be directed to health care system so better working conditions could be ensured and developed society supports the doctors because currently they rather feel social criticism towards them Training of other professions who support doctors and nurses for the health care system was found important For example the public transport system should be improved, money should be directed into developing the schools that are situated in the rural areas, so that people now living there would stay there 	<ul style="list-style-type: none"> preventive means are working conditions and salary solution may be in different factors increasing interaction and communication service structures should be transformed from client-based into client-focused, and operations models should be developed accordingly this might interest professionals and prevent them from moving to other areas the reasons for brain drain should be tackled 	<ul style="list-style-type: none"> the reputation rise is seen as the most important solution for counter-acting brain drain of health care professionals infrastructure for families and financial incentive creation of centralized specialty centers mobilization of patients and the creation of cooperation practices increasing the work attractiveness of a GP, which goes hand in hand with the reputation of the GP
	Latvia 🇱🇻	Lithuania 🇱🇮	Sweden 🇸🇪	
	<ul style="list-style-type: none"> increase funding directed to health care in general and for medical personnel salaries change of public attitude growth of physician profession dignity and prestige increase of professional career opportunities social guarantees and arrangement of social environment feeling of perspective and stability of the health care system increase in rural area population adequate work-pay ratio as well as employment opportunities and additional financial support particularly in rural areas the tele-consultations and tele-mentoring as a possible solution 	<ul style="list-style-type: none"> payment enlargement and financial drive the health insurance should be increased doctors should be given conditions to administer their direct functions, lessen those activities which are secondary and are not associated directly to job of a doctor a doctor should administer ones' direct functions Importance of changing the attitude towards doctor of society Increase of motivation of health department professional good operating conditions should be given, both physical, and psychological it should be pleasing to work in ones' workplace 	<ul style="list-style-type: none"> make changes in social structures to simplify to live in the country side making it interesting to work within primary care in rural districts individual solutions -for example individual salaries and easy access to support by tele-consultation and extended continuous education 	

³⁵ created by the author



3.4.2. Tele-consultation/Tele-mentoring as a solution

Regarding the helpfulness of tele-consultation and tele-mentoring as a tool improving the health care system only in Finland and Sweden effects were found. In all other countries no studies could be found. From Finland it was reported that the wards were able to keep up to date with the information, while in Sweden the effects described were that professionals were able to maintain their diagnostic competence. Also educational effects and an enhanced quality of care was reported from Sweden³⁶. In this chapter the experts opinion on tele-consultation and tele-mentoring as a solution to counter-act brain drain is described.

Belarus

All the experts are convinced that the development of IT will promote the decrease of brain drain and professional isolation of medical specialists. The most effective information technologies in the judgment of the experts are tele-consultation and tele-mentoring.

The majority of the experts mentioned that tele-medicine implementation will be more effective on the level of regional (8 persons) and rural healthcare institutions (7 persons).

The experts consider on-line consultations via high-frequency communication channels as the most perspective in emergency cases (8 persons). Five persons also mentioned video-conferences, four off-line postponed consultations.

Tele-mentoring was mentioned by the experts as the most acceptable in case of qualification improvement of specialists (8 persons) and as an element of self-education (8 persons).

Estonia

None of the Estonian experts saw tele-consultation as a direct solution to counteracting brain drain. However all the experts had a positive attitude towards tele-medicine services and they thought that these measures could help decrease brain drain and increase the assuredness and quality of care in remote areas. „Digital solutions change the process.“ (EST E6)

“How could that keep a young doctor in Estonia – seems artificial.” (EST E8) A professor (EST E4) who shared this opinion thought that just because of tele-consultation and tele-mentoring scarcely anyone will go to work in rural areas: “It helps to cope better in that environment. I believe that, if someone has that kind of channels to use, indeed. But that it will affect the decision, that’s why - I don’t believe that.”

On the other hand one expert said: “We have to be equally educated from that side, as we on the

³⁶ PrimCareIT (2012, p. 77)



state's level can not even see this and like support the need for a mentoring programme.“ (EST E9)

There has to be changed a lot in Estonia to decrease brain drain and to make remote areas more attractive, especially to young people. In experts' opinion using tele-medicine services is not regarded the only solution.

Finland

Six of the respondents thought tele-consultation and tele-mentoring could be of help for the situation, but not the only solution. It is also essential that technology starts from client focus, which is not disturbed by service-specific or administrative boundaries. Tele-consultation is one way to implement consultations. Doctors think that also telephone consultations are a good and well-functioning system. The important thing is that the consultant is a professional in their field and has a positive attitude to the consultation event. In mentoring, tele-mentoring works better, because it simulates a face-to-face meeting and allows to some extent also nonverbal communication and the expression of feelings. Tele-consultation and tele-mentoring also support the services that are possible to provide in peripheral areas, giving protection to staff and clients.

Technology is beginning to be in place in the form of image and sound. Seeing another person was still experienced as important in an interactive situation.

It was also thought that tele-consultation and tele-mentoring brought opportunities to influence closer to people and increased participation. Tele-consultation and tele-mentoring would also allow contacts within the organisation and the area.

There are some positive experiences of this, e.g. in psychiatry and the consultation of a neurologist on duty, consulted e.g. about thrombolytic treatment in the case of cerebral infarction. The professional should feel it benefits them above all professionally. It is necessary that the concept should be mature enough, while technology should not be a problem.

Germany

Tele-consultation and tele-mentoring is regarded a good solution by four of the six GPs in counter-acting brain drain (GER E9, E10, E11, E12). While one states that he thinks that tele-consultation/tele-mentoring are good, he is also sceptic that it is too time-consuming for the daily practice, but he would prefer a server-based system that would notice him as soon as the contacted specialist has worked on the case (GER E11). Another one pointed out that the system could work well for virtual participation in seminars and events (GER E12) although he underlined that it could be hard to implement such systems due to the IT-aversion of physicians. Another GP said that it could help for quality assurance but only if it was not organised hierarchical, making the contacting person feel as if being the "non-knowing" in contrast to the contacted "all-knowing" (GER E10). On the other hand, one GP is concerned that there are too many problems, such as poor internet availability or the too complicated time-consuming set-up of the videoconference equipment to help physicians in rural areas (GER E13). He also criticised that the personal aspect



of face-to-face conversations, which is rather important in his eyes, gets lost as well (GER E13). One GP mentioned that tele-consultation and tele-mentoring are good solutions but do not solve the problem. The only way he sees is to educate more GPs, and thereby cure the entire disease of too little GPs, not only the symptoms (GER E8).

All the seven interview partners from the group of the institution's representatives see tele-consultation or tele-mentoring as a solution in counteracting brain drain (GER E1, E2, E3, E4, E5, E6, E7). One even states that it is the only solution (GER E3). Other factors named in favour of the solution are the time-savings in traveling-times for patients and doctors (GER E4) and the connection of Islands (GER E1). The only problem two of them see is the time-consuming usage of the system, which could stand against the implementation in every day practice (GER E1, E7). Another hindering factor mentioned by one partner is the lacking willingness of GPs to open themselves for questioning some other person on a medical problem (GER E5).

Altogether, 11 of 13 interview partners see tele-consultation and tele-mentoring as good solutions to counter-act brain drain and professional isolation. With some hindering factors, such as time-consuming installation or IT-aversion there are still barriers named, but one expert even sees it as the only solution in this field. One GP sees the solution as impracticable, while another one thinks that it does not solve the problem of brain drain.

Latvia

Interviewing about tele-consultation/tele-mentoring as a solution for counteracting professional isolation four out of twelve respondents (two experts and two GP's) confirmed these technologies as a possible solution, but five out of twelve respondents (two experts and three GP's) saw it only as a partial solution, saying that in the case of implementing such technologies medical personnel must have an interest, available internet communications facilities and the ability to use these technologies.

Unfortunately, three out of twelve respondent's don't see tele-consultation/tele-mentoring as a solution for counteracting professional isolation – one of these respondents underlines: "For those who are focused on collaboration and searching for new information all tele-options are only an additional tool, but if a person does not do anything, this tool will not bring any benefit at all...".

Answering to the question about tele-consultation/tele-mentoring as a solution for counteracting brain drain respondents are sceptical – no one of respondents sees these technologies as a solution, but five out of twelve respondents (two experts and three GP's) considers that this could be only as a partial solution. Five other respondents (three experts and two GP's) noted that tele-consultation and tele-mentoring won't change the current situation regarding brain drain, whereas two other respondents have no opinion about this topic because of a lack of this kind of experience.



Lithuania

As a solution for brain drain and professional isolation were mentioned tele-consultations (consultations in a remote way). It was pursued to find out the attitude of health care professionals towards tele-consultation and if, to doctors' mind, they helped counter-acting brain drain problems. It was also pursued to find out if health care professionals have experience in consulting in a remote way.

Opinions about tele-consultation as a solution can be distinguished into two sides: 1. Yes, it would help. 2. It would help, but it is not the main solution.

Not all health care professionals had experience with tele-consultations. But those who did, named that it is very perspective and shared their experience. A link can be seen that those professionals, who are interested in an increase of health care service quality, follow innovations and accept them kindly and are more open-minded than those who limit their everyday work. Respondents, who have gained experience in tele-consultation, named a lot of suggestions on how to improve the service of telemedicine.

Some of the interviewed doctors envisage that tele-consultation would help to decrease unevenness of health care between cities and villages. It would not be necessary for the patients to come to the doctor from remote regions to the cities. Waiting time between different consultants would be shortened, when everything can be set at the same time at a family doctor's office. This could improve the quality of health care services.

Most (9 of 10) of the health care professionals named that tele-consultation is a very useful tool but at the moment, those, who are doing it, "*do it from a good will and do not get a payment for it*" (LTU E4; E6). To widen the usage of tele-consultation, wider changes in the health care system should happen, such as a legal proffer, payment system should be created.

Sweden

Four experts thought that tele-services can offer good solutions. They thought that tele-services could create a bridge between isolated professionals in rural primary care and specialists working in, for example, university hospitals. Telemedicine is an important tool to counteract both brain drain and professional isolation. It creates networking possibilities everywhere and is an excellent way of providing specialized care in sparsely populated areas. Two experts didn't agree that tele-services could solve brain drain and professional isolation. The other experts couldn't tell if it was a solution or not.

One expert underlined that mentoring also requires physical meetings and communication, but that it may be a solution if the technique is well established. One expert had never heard of tele-mentoring, but felt positive about the idea if it was prioritised in the daily clinical work.



Summary

In general, all countries hold the opinion that tele-consultation and tele-mentoring can be a solution. Lithuania even presumes a higher quality of health care through telemedicine. Although all countries mentioned positive aspects such as time savings and the creation of a bridge between isolated professionals in rural primary care, they all are still sceptical and stated hindering factors like the necessary IT infrastructure and the acceptance.



Table 8: Overview on tele-consultation/tele-mentoring as a solution counter-acting brain drain and professional isolation³⁷

	Belarus	Estonia	Finland	Germany
Tele-consultation and tele-mentoring as solution	<ul style="list-style-type: none"> all the experts are convinced that the development of IT will promote the decrease of brain drain and professional isolation of medical specialists the majority of the experts regard tele-medicine implementation more effective on the level of regional and in rural healthcare institutions on-line consultations via high-frequency communication channels are seen as the most perspective in emergency cases. 5 persons also mentioned video-conferences, four – off-line postponed consultations. tele-mentoring was mentioned by the experts as the most acceptable in case of qualification improvement of specialists and as an element of self-education 	<ul style="list-style-type: none"> none of the Estonian experts saw tele-consultation as a direct solution to counteracting brain drain positive attitude towards tele-medicine services and they thought that these measures could help decrease brain drain and increase the assuredness and quality of care in remote areas 	<ul style="list-style-type: none"> Six of the respondents thought tele-consultation and tele-mentoring could be of help for the situation, but not the only solution essential that technology starts from client focus, which is not disturbed by service-specific or administrative boundaries. Tele-consultation is one way to implement consultations. Doctors think that also telephone consultations are a good and well-functioning system. important thing is that the consultant is a professional in their field and has a positive attitude to the consultation event in mentoring, tele-consultation works better, because it simulates a face-to-face meeting and allows to some extent also nonverbal communication and the expression of feeling tele-consultation and tele-mentoring also support the services that are possible to provide in peripheral areas, giving protection to staff and clients 	<ul style="list-style-type: none"> 11 of 13 interview partners see tele-consultation and tele-mentoring as good solutions concerning brain drain and professional isolation. With some hindering factors, such as time-consuming installation or IT-aversion there are still barriers named one expert states it as the only solution in this field one GP sees the solution as impracticable one expert thinks that it does not solve the problem of brain drain
	Latvia	Lithuania	Sweden	
	<ul style="list-style-type: none"> four out of twelve respondents (two experts and two GP's) confirmed these technologies as a possible solution five out of twelve respondents (two experts and three GP's) sees it only as a partial solution, saying that in the case of implementing such technologies medical personnel must have an interest, available Internet communications and ability to use these technologies three out of twelve respondent's don't see tele-consultation/tele-mentoring as a solution for counteracting professional isolation 	<ul style="list-style-type: none"> doctors envisage that tele-consultations would help to decrease unevenness of health care between city and village it would not be necessary for the patients to come to the doctor from further regions to the cities waiting time between different consultants would be shortened, when everything was set at the same time – at a family doctors office. This could improve the quality of health care service. most (9 of 10) of health care professionals named that tele-consultations is a very useful tool but at the moment, those, who are doing it, "do it from a good will and do not get a payment for it" [Expert 4], [Expert 6]. the tele-consultations should be applied wider, changes in the health care system should happen – legal proffer, payment system should be created. 	<ul style="list-style-type: none"> four experts thought that tele-services can offer good solutions they thought that tele-services could create a bridge between isolated professionals in rural primary care and specialists working in, for example, University hospitals. Telemedicine is an important tool to counteract both brain drain and professional isolation. It makes networking possibilities everywhere and is an excellent way of providing specialized care in sparsely populated areas. two experts didn't agree that tele-services could solve brain drain and professional isolation the other experts couldn't tell if it was a solution or not one expert said that mentoring also requires physical meeting and communication but that it may be a solution if the technique is well established 	

³⁷ created by the author



3.5. Spread of tele-consultation and tele-mentoring

According to the literature review the status of on-going tele-consultation and tele-mentoring projects is rather different in the seven countries. There are tele-consultation projects existing in all participating countries. In Belarus those projects are concerned with tele-medical consultations in Chernobyl injured areas as well as telemedicine in pathology and in TB dispensaries. In Estonia there have been tele-consultation projects, but they are not in practice any more, while tele-mentoring is delivered through a web-based training program called Svoog. In Finland tele-consultation is widely spread and tele-mentoring is carried out on a daily basis in dermatology, education and coronary angiography. Germany is not that far yet, but has some approaches such as a tele-consultation wound management, as well as tele-consultations between ear-nose-throat physicians and a head center and in psychiatric institutions. Tele-mentoring is no topic in Germany, yet. Latvia is using tele-consultation in the BITNET and in telemedicine information systems, while Lithuania has limited projects in digital ophthalmology, cardiology and radiology. From Sweden it is reported that tele-consultation is carried out between health professionals on a daily basis³⁸. The content of this chapter include on the one hand the experience and on the other hand the on-going projects in this area as well as the expert's visions on tele-mentoring and tele-consultation.

3.5.1. The expert's experience with tele-consultation or tele-mentoring

In this chapter an overview of the expert's experience with tele-consultation and tele-mentoring is provided.

Belarus

All the working places of the experts are equipped with computers, there are computer technologies, which are used in there organizations, and the internet.

Five of the experts had personal experience in tele-consultation participation. Four experts had personal experience in distance learning.

Estonia

The Estonian experts did not have a wide range of experiences in the field of tele-consultation, but all ten of them had had some sort of encounter. None of the interviewees had experiences with tele-mentoring.

Considering that the experts did not think of tele-consultation only as video-consultation, but also e-mail, e-referral letter and consultations via telephone, all of them had had some experience with the usage of tele-consultation. Talking only about video-consultation and consultations via e-mail

³⁸ PrimCareIT (2012, p. 77)



half of the interviewees had had personally, and a few of them were involved with the pilots of different projects. In everyday work none of the experts had used video-consultation, if excluding video-meetings for example using Skype.

Being a radiologist one expert (EST E6) has for example written test results for foreign hospitals. Two of the experts were both involved with the BITNET project in 2000, when joint tele-conferences and tele-medicine consultations took place between family doctors of Kuressaare (island of Saaremaa) and Tartu. Within the same project one expert (EST E4) has also witnessed tele-consultations. A professor (EST E3) said that it was fantastic, but it faded because it needed a lot of enthusiasm.

Expert EST E9 has not participated in tele-consultations herself, but she has witnessed how tele-consultations take place between the residents of the islet Kihnu and the doctors from the North Estonia Medical Centre. According to her, everybody is very satisfied with it - the patients, the doctors and the state.

In conclusion all the experts have had some sort of encounter with tele-consultation in it's different forms, not only video-consultation. No one from the interviewees has had experience with tele-mentoring.

Finland

Five of the interviewees had experience in tele-consultation and tele-mentoring. The experiences mentioned are the following: tele-consultations with the trade union, Northern Savo summer-time substitutes' opportunity to tele-consultation (Viva), mentoring experiment with the APC connection, experiments in the Lakeuden Potku project and in the oral and maxillofacial surgery project in the Region of Vaasa, tele-consultation experiments in the KONSU project in 2002, experiences in teleconferencing, and the direct electronic consultation survey with special health care at Peijas Hospital in Vantaa in the 90's.

Most of the experiences consisted of experiments in different projects. Regarding them, it was mentioned that technology had posed problems. For example, the tele-consultation activities of the KONSU project in 2002 ended because the technical solutions were not sufficiently easy to use. A key demand in tele-mentoring and tele-consultation is the ease of use of the technologic solutions.

Germany

Four of the six physicians indicated that they had already heard of or are involved in telemedicine projects (GER E9, E11, E12, E13). Two of them already have experience with telemedicine (GER E13). One of the physicians was involved in a video conference project between the islands and islets (GER E13), while another doctor was able to gather experience during his training at the Marine in the submission of reports of in-sea vessels to the Military Hospital (GER E8). Two other interviewees have been involved in the development of telemedicine projects. One about COPD (GER E11), the other one concerning an emergency data USB stick (GER E12). However, both projects were not implemented on a large scale. The projects, of which two interview partners say they have heard of,



include approaches on heart rhythm disorders, Smart Assist, diabetes control or different telemedicine solutions in Scandinavia. Two physicians said they have had no contact with telemedicine so far (GER E8, E10). They both emphasize, however, that an exchange with colleagues via phone takes place and one of them also underlines that he from time to time sends data to colleagues via email for review (GER E10).

Among the representatives of the Schleswig-Holstein health care institutions all seven have already heard of telemedicine solutions. However, since they mostly do not directly operate on the patient, they have less experience in using it and much more experience in the development of telemedicine solutions by their institutions. Thus, in this group only one person used telemedicine in the form of teleradiology (GER E6). Five respondents reported that their institutions are involved in the development of telemedicine solutions (GER E1, E2, E3, E4, E5). These include different approaches such as the networking of doctors in Schleswig-Holstein (GER E1), the tele-psychiatry (GER E4), tele-mentoring (GER E3), the provision of open legs (GER E5) and various telemedicine projects in the outpatient and inpatient setting (GER E2). Only one member has not directly been involved in any telemedicine solution, yet, but has already heard from various tele-consultation solutions in Scandinavia and can imagine this better than telephone conferences, as the following quote shows: *"So, teleconferences and as I said, I had to learn to discipline myself, because you do not know who nods sympathetically, who draws a grim face, thinking "what does he talk about?" That's why I would prefer video conferencing ..."* (GER E7)

Altogether, three experts are experienced with telemedicine, but only one partner has ever used tele-consultation. Seven interviewees have already been involved in telemedicine development, while six have heard of telemedicine, but have not used it, yet. Two respondents have not had any contact with telemedicine so far, both of them from the group of the GPs.

Latvia

The interviewed experts and GPs weren't very experienced in tele-consultation and tele-mentoring. Only four of twelve persons (two experts and two GPs) have experience in this field.

One of the experts had some experience in diagnostic division, when he was working in practical medicine, but it was in times when IT technologies were less advanced than nowadays. Another expert has minimal experience in the context of consultations in radiology and roentgenology.

One of the GPs had different kind of experience. When this GP was a young doctor and worked in Riga's city emergency service he gained experience in tele-mentoring. In situations when he couldn't decide or didn't know how to act or there was some contentious situation, he contacted a more experienced colleague, a doctor on duty in the emergency service central station. Then together they decided on the best solution for each case.

It should be mentioned that two more experts (although they have no direct experience in these IT solutions) have faced these terms indirectly. One of them has theoretical knowledge about tele-consultation and tele-mentoring, while the other has been involved in the preparation of strategic plans and governmental documents related to the use of IT solutions in primary health care.



Lithuania

Health care professionals named the following experiences in the field of tele-consultation and tele-mentoring:

- Consultations on the phone. It is a very frequent way of consultations. But doctors name these consultations as informal.
- Tele-consultations with special equipment. Projects are being held, performing examination of ocular fundus. During this, medical residents go to health care institutions in regions, where photographs of patients' ocular fundus are taken. The view of the ocular fundus is sent to Kaunas clinics, where the working professional names the ocular fundus view, gives conclusions and, if necessary, prescribes a real consultation. In this way, time of patients is saved and they do not need to come from remote regions to the city.
- Tele-consultations for skin alteration. A picture of the skin is taken and the photos are sent to other doctors for a consultation.
- Consultation through a server, when one can give a request for a professional on duty.
- Sending radiological pictures.
- Patients' consulting terminals, where patients can pay and receive a doctor's consultation.
- Cardiomonitors – *"patients have small devices which register heart rate disorders. A doctor or a patient, signed in the system, can see, which day and what time the patient's heart rate was disturbed"* (LTU E1).
- Common data base between one health care institution's different departments. Medical data, laboratory findings and X-ray pictures are placed and service accounting is being made in this data base. Data is reachable for professionals in all departments and in this way possibilities to consult each other are given.

Sweden

Six experts had no experience, three had some experience. The ones with experiences was for example in tele-dermatology, when GPs send questions along with macroscopic photographs and dermatology images to a Dermatologist as a tele-consultation, tele-mentoring, when a mentor uses Skype to contact an adept or tele-medical consultations with the orthopaedic, surgical, dermatology and otology departments. Others had experience with tele-services plan care-meetings, conferences, physiotherapy and consultations by routine or listening to the patients heart by an electronic stethoscope. One expert expressed that he has experience with technical development, support and administration of tele-services.

Summary

Summing up the results from the literature, the literature review revealed that some countries are further and some aren't that far, concerning the usage of tele-consultation and tele-mentoring, yet. This can be seen in the experience of the experts as well. While in Belarus four experts had experience in distant learning, the Estonia experts are widely used to tele-consultation, including



email-consultations and e-referral letters. Finnish experts are well experienced since they use tele-mentoring and tele-consultation in daily practice already in different contexts. In Latvia four experts are experienced in tele-consultation or tele-mentoring, while in Germany only one expert has used tele-consultation and seven have been involved in the development of telemedicine approaches. In Lithuania the experts describe experience in very diverse fields of tele-consultation and tele-mentoring, while in Sweden the experience is mostly within different ways of telemedicine.



Table 9: Overview on expert's experience with tele-consultation/tele-mentoring³⁹

	Belarus	Estonia	Finland	Germany
Experience in tele-consultation and/or tele-mentoring	<ul style="list-style-type: none"> all the working places of the experts are equipped with the computers there are computer technologies which are used in there organizations, internet all the experts are absolutely sure that the development of IT will promote the decrease of brain drain and professional isolation of medical specialists. all the experts found it necessary to develop distance learning in Belarus 4 experts had personal experience in distance learning 	<ul style="list-style-type: none"> Estonian experts did not have wide experiences in the field of tele-consultation all ten of them had had some sort of encounter. None of the interviewees had experiences with tele-mentoring. tele-consultation including as well video-consultation as e-mail, e-referral letter and consultations via telephone, all of them had had some experience with the usage of tele-consultation only with video-consultation and consultations via e-mail half of the interviewees had had personal experience quite a few of them were involved with the pilots of different projects in everyday work none of the experts had used video-consultation, if excluding video-meetings for example using Skype 	<ul style="list-style-type: none"> five of the interviewees had experience in tele-consultation and tele-mentoring the experiences mentioned are the following: tele-consultations with the trade union, Northern Savo summer-time substitutes' opportunity to tele-consultation (Viva), mentoring experiment with the APC connection, experiments in the Lakeuden Potku project and in the oral and maxillofacial surgery project in the Region of Vaasa, tele-consultation experiments in the KONSU project in 2002, experiences in teleconferencing, and the direct electronic consultation survey with special health care at Peijas Hospital in Vantaa in the 90's. 	<ul style="list-style-type: none"> three experts are experienced with telemedicine, one partner has used tele-consultation seven interviewees have been involved in telemedicine development six have heard of telemedicine, but have not used it, yet two persons have not had any contact with telemedicine so far
	Latvia	Lithuania	Sweden	
	<ul style="list-style-type: none"> interviewed experts and GP's aren't very experienced in tele-consultations and tele-mentoring four of twelve persons (two experts and two GP's) have experience in this field. 	<ul style="list-style-type: none"> Health care professionals named these experiences: <ul style="list-style-type: none"> Consultations on the phone. Tele-consultations with special equipment. Tele-consultations for skin alteration. Consultation through a server, when one can give a request for a professional on duty Sending radiological pictures. Patients' consulting terminal, where patients can pay and receive a doctor's consultation. Cardiomonitors Common data base between one health care institution's different departments. 	<ul style="list-style-type: none"> six experts had no experience three had some experience the ones with experiences was for example: tele-dermatoscopy when GPs send questions along with macroscopic photographs and dermatoscopy images to a Dermatologist as a tele-consultation; tele-mentoring when a mentor use Skype to contact his a adept; tele-medical consultations with the orthopaedic, surgical, dermatology and otology departments; with tele-services plan care-meetings, conferences, physiotherapy and consultations by routine; listen to the patients heart by an electronic stethoscope. One expert has experience with technical development, support and administration of tele-services. 	

³⁹ created by the author



3.5.2. The expert's opinion on tele-consultation and tele-mentoring

The expert's individual opinion concerning tele-consultation and tele-mentoring is the matter of this chapter.

Belarus

The most effective IT in medicine, in the experts' opinion, are tele-consultations, distance learning and the internet.

Financial and organizational problems are considered by the expert to be the main problems for IT implementation.

All the experts (10 people) find it important to develop tele-medicine in Belarus.

Respondents noted that distance learning is the most acceptable among the specialists' qualification improvement and as the element of self-education.

Estonia

"... it is like one aspect of the development of medicine,..." (EST E3)

Four of the experts thought that it is important to determine, if doctors need such services at all. They thought it is a problem, when one enthusiastic group of doctors thinks that tele-services would be beneficial and the usage will be made available to all the doctors, but afterwards the rest of health care workers will not use them. And at the same time there might be dissatisfaction because a lot of resources were used to develop these services, but maybe this money could have been used differently. One expert (EST E2) said thinking about Estonia: "... *it should be researched before, how many find it a problem.*" This opinion was shared by other experts (EST E8, E9, E10). One of the experts (EST E9) also highlighted, that doctors should bravely ask themselves, what they need to help them working, because there are a lot of attempts to sell rubbish as innovative developments.

It was stressed by four experts that it is important to have that enthusiastic group of doctors, who would be engaged. "*The first thing, that there is a group with some kind of power, who decides, who is convinced that it is worth dealing with [...] This group has to bring out all the positive aspects, that this service has.*" (EST E6) Initiating new services needs enthusiasm in the beginning, manner of thought and professional interest. Other experts also thought that enthusiasm is very important, especially to set projects going, but that it is not enough to carry through alone.

The Deputy Secretary General on Health said that she is the supporter of new solutions. She described the problem of smaller islands and the pilot that is going on between islet Kihnu and the doctors from the North Estonian Medical Centre. "*In addition to giving first aid, one important task for the assistants, who are on the spot, is to describe the health status of the person needing aid and making him/her able to be examined via means of tele-medicine, meaning, making him/her*



visible on a computer screen for the specialist in the hospital.”⁴⁰ Many problems can be solved like this without having the helicopter fly out to the island for the patient immediately. It can be predicted looking at that project that tele-medicine is the near future, in Estonia primarily from the perspective of the smaller islands. Unfortunately, the expert mentioned that there has no literature been published about that project.

One expert (EST E1) said, that medicine is really a communal engagement and: “*This tele-consultations, e-visit simply gives you more opportunities to organize teamwork around your patient.*” Three other experts stressed that the patients also benefit from these services and for a lot of doctors it is professionally more interesting to work in a team, which provides tele-consultation.

Applying new technologies and problems that are involved with it, were also talked about. A couple of experts mentioned, that implementation is the most difficult phase, but once that time has passed, nobody wants to continue to the old ways used before. That is why it is important to have pilots, so that afterwards there would be as few problems as possible.

The fact how tele-services could help to increase the quality of care was also discussed and all the experts understood this aspect. At the same time it was mentioned, that personal communication is important in quite a few specialities. One of the interviewees also stressed that Estonia is so small, that very specific specialities might disappear altogether in the long run and in that case tele-services would be very useful, especially for communicating with foreign experts.

The subject mentoring is not widely discussed in Estonia, particularly in medicine. The fact, that this subject is more relevant in other countries was affirmed by three experts. “*In other specialities and fields supervision is already talked about for years and in that sense mentoring and burning out, it is not suitable somehow for us to talk about it, that everybody is superman. Why not start thinking about these things more. The society also develops.*”(EST E9) While carrying out these interviews quite a few of the experts thought about mentoring in the field of medicine for the first time, because it is thought when one has graduated from university and residency, he/she is a prepared doctor. “*The same is with mentoring, the comprehension has to come from within the business itself, that the greatest value is your happy doctor.*” (EST E6) But, it has to be acknowledged that this kind of value judgement is not present at the moment in businesses and in society.

“I think that having that kind of person (mentor) is more important, to get this sureness and then lets say, if we think solely about the jump in quality of care – so then already that kind of opportunity to consult with central hospitals should be generally guaranteed to everybody and this might be ensured centrally by the state, not the way it is at the moment, that you have to have an acquaintance to whom to call and ask for advice. [...] If it is financed from the government budget

⁴⁰ <http://uudised.err.ee/index.php?06256692>



and hospital has been given the obligation, then that gives the family doctors the change to call not the obligation to call, but to have that kind of opportunity. But I am saying that it has to be financed in a way that the other part would bother to look into it.” (EST E8)

Leading the experts' attention to the question, if these tele-services could help to attract young doctors to remote areas, it was thought that they could help, just the knowledge that one can ask for advice if one needs to, could help. It was expressed by all the experts that especially in geographically far away single praxis' tele-services could help. One of the experts (EST E5) was very explicit: *“Every normal sixth year graduate has a panicky fear for becoming a doctor, because one knows, that one does not know a lot of things and most of all one is afraid to become a family doctor, because then one will be alone. Even then when he/she, at the beginning there is residency, but still he/she is alone there, most of the time. They are afraid of that the most [...]. If you are able to create a supporting system, that everybody, who is a family doctor, will have always someone to call, are you a young doctor or replacement doctor, you will have twice as many applicants (to residency).”* If all the conditions have been created, so that a person would feel that one can do one's work better, then it is certainly an important stimulus to really work better. At the same time three of the experts said clearly, that the opportunity of tele-services scarcely has a significant part in a young doctor's decision on where he will go to work, but overall that kind of supporting service would certainly help him. *“If he is not thrown into the water and he will not be left as a pushover to everybody, if he feels the collegiality, then he will come and stay. But this will not happen tomorrow, this will not happen with overnight solutions.”* (EST E5) But as mentioned already before, these kind of services have not been thought about in Estonia before.

One of the bigger questions that also arose among the experts was about choosing the mentors and the fact that the mentor has to be motivated to answer questions and the mentee has to want this advice. *“The presumption is that on both sides of the channel there are people, who are motivated and who have time to do this.”* (EST E4) The same problem was stressed by two other experts. Expert EST E10 also pointed out, that mentoring should not only be motivated strongly with money, centring money. The motivation of doctors to use these services was also considered very important by five experts. *“If he is not motivated, then we can create a hundred conditions, but he will not use them.”*(EST E1) This opinion was also shared by three other experts.

What are the presumptions to become a mentor, have to be thought through said three of the experts. One of them (EST E10) thought that this should be related with recertification, the same thing was proposed by two professors (EST E2 and E3), who added, that the mentors should be experienced, enthusiastic family doctors.

Generally the Estonian experts were well inclined towards tele-consultation and tele-mentoring, only one expert disagreed. *“I personally am a very big e-sceptic, especially in the context of Estonia. ... Some things it will help, for single things it is the solution, but one can not hope for the solutions for the health care, doctors, doctor patient relationship or for the recovery of people or to those things, from that, this is not like real [...] But e-solutions will not bring a person out from isolation indeed.”*(EST E5)



In the interviews problems related to financing of these tele-services were also discussed. *“Lack of financing is what hinders the development of the Estonian health care system the most today”* (EST E6) Other experts did not say that as directly, rather the bigger problems were seen in the attitude of the society towards health care workers and towards the health care system and the motivation of doctors to change things and make them better.

Finland

The interviewees mostly thought that tele-mentoring and tele-consultation are tools of the future in health care. They were regarded as excellent tools for eliminating brain drain and professional isolation. Tele-mentoring is an opportunity to empower actors in peripheral areas.

Tele-consultation and tele-mentoring will increase as technology evolves, and they will help compensate for lack of time and geographic distance. On the other hand, it was also mentioned that the technology used should be well-functioning and that the content should be emphasized, compared to technology. They should be developed and tested because they are emerging. The public may first have doubts about them, but they could help with e.g. home care. South Ostrobothnia has long geographic distances, so it would be important to develop digital solutions shortening distances.

On the other hand, two of the interviewees said that seeing a human is important; mere telephone connection is not enough, and wired tele-mentoring does not replace face-to-face contacts. Technical devices have lots of problems, and servers do not function as they should. If a large number of professionals gather to have a teleconference, everyone's working time is lost.

Germany

The personal opinion on the usage of tele-consultation and tele-mentoring is diverse among the GPs. One is totally positive about the usage and argues that lots of tasks can be speed up und directed to staff other than physicians (GER E11) with the help of those services. Two GPs are positive, but have certain doubts. One of them states that tele-consultation and tele-mentoring should be made available in certain cases, where it is useful, such as in maritime environments on ships, but should not be applied onto all GPs with the obligation for usage (GER E9). The other interview partner, being positive but doubtful, claims that the IT-affinity among physicians could be too high for the system to be used (GER E12). Three interviewees have a negative attitude towards tele-consultation and tele-mentoring. One of them fears that the systems get misused for rationalisations and should not be implemented without an actual need, since health care financing institutions could start using tele-consultation or tele-mentoring and stop searching for physicians for the regions (GER E10). Another aspect named in this context by another GP is that the personal contact between colleagues that is so important gets lost and that also in an emergency a person via video is not that much a help for the GP being in the physical location with the emergency (GER E13). According to a third sceptical GP not everything that is feasible should be done (GER E8). He states that in the context of patient's case interaction tele-consultation and



tele-mentoring are impractical, but he recommends to use them for meetings of the Association of Statutory Health Insurance Physicians Schleswig-Holstein, to save valuable times to meet in a central town in Schleswig-Holstein every now and then (GER E8).

Of the seven institution's representatives six have positive feelings about tele-consultation and tele-mentoring (GER E2, E3, E4, E6, E7, E8). They state for example that it is an essential way in the future (GER E2) and some institutions or hospitals even use similar systems already (GER E6). One interviewee underlines that it is the idea of medicine to provide new generations with what is known already, which is the core idea of tele-consultation and tele-mentoring (GER E5). Another representative is positive but underlines that it should only be used where it is needed (GER E1), since he states that in many cases a specialist opinion is not needed immediately.

Among all the experts, the tendency towards tele-consultation and tele-mentoring is rather positive. However, the opinion among the institution's representatives is more positive than among the GPs. Half of the GPs have a negative attitude towards the concepts, while six of seven representatives think about tele-consultation and tele-mentoring in a positive manner.

Latvia

Interviewed persons have different opinions on this topic. Only slightly more than half – seven out of twelve respondents expressed supportive attitudes and characterized tele-consultation and tele-mentoring as a very good and positive thing: *“...it is the future that will open up new opportunities”, “...one of the solutions, which is necessary”*. Also, experts admit that tele-consultations and tele-mentoring are very good options. One of them notes: *“...we just should not overestimate the capabilities of this instrument - it isn't suitable for all cases. It fits in case the flow of information in both directions is sufficiently limited, clear and understandable”*. Some other expert added that it is positive only on the condition if the doctors are motivated to use these technologies and if tele-consultation and tele-mentoring are carried out discreetly, if they are sufficiently arranged, the physicians do not have to cover costs of these technologies from their pocket, and do not need to purchase software or ensure technical conditions of these technologies.

One of the experts is very sceptical about tele-consultations and tele-mentoring: *“If this is some kind of extra burden, which may not be paid in addition to salary and it is not provided as a part of the whole system, then I suspect it may “die in a natural death” at the moment of its implementation”*. The same expert tells about an unsuccessful IT project carried out in one of Riga's hospitals. As the factors influencing the project were mentioned a lack of interest and funding as well as the involved professional's inability to see the sense of it.

Four of twelve interviewed experts confess that they don't have opinion on this topic just because they never had any experience regarding tele-consultations and tele-mentoring and they do not have knowledge of it.



Lithuania

No comment on this section from Lithuania.

Sweden

Few experts had a clear opinion. Some of them thought that tele-services could be helpful if implemented in every day routine.

Summary

A positive attitude towards tele-consultation and tele-mentoring solutions was expressed by German, Belarusian, Swedish, Estonian, Finnish and Latvian experts. Being regarded a tool of the future and that it poses benefits for different partners in the health care system, for the GPs, but also for the patients, it was seen as a positive solution. Still there were problems named, such as the financing or the complicated implementation of the solution as well as the lack of interest by the professionals. An overview of all answers can be seen in the table below.



Table 10: Overview on expert's opinion on tele-consultation and tele-mentoring solutions⁴¹

	Belarus 🇧🇪	Estonia	Finland	Germany
Opinion on tele-consultation and tele-mentoring as solution	<ul style="list-style-type: none"> the most effective IT in medicine financial and organizational problems are considered by the expert to be the main problems for IT implementation 	<ul style="list-style-type: none"> they thought it is a problem, when one enthusiastic group of doctors thinks that tele-services would be beneficial and the usage will be made available to all the doctors, but afterwards the rest of health care workers will not use them at the same time there might be dissatisfaction because a lot of resources were used to develop these services, but maybe this money could have been used differently three other experts found that the patients also benefit from these services experts regard that for a lot of doctors it is professionally more interesting to work in a team which provides tele-consultation s couple of experts mentioned, that implementation is the most difficult phase, but if that time has passed, then nobody wants to continue as before the problems related to the financing of these tele-services were also discussed. 	<ul style="list-style-type: none"> mostly thought that tele-mentoring and tele-consultation are tools of the future in health care they were regarded as excellent tools for eliminating brain drain and professional isolation tele-mentoring is an opportunity to empower actors in peripheral areas. tele-consultation and tele-mentoring will increase as technology evolves, and they will help compensate for lack of time and geographic distance technology used should be well-functioning and that the content should be emphasized, compared to technology two of the interviewees said that seeing a human is important; mere telephone connection is not enough, and wired tele-mentoring does not replace face-to-face contacts. Technical devices have lots of problems, and servers do not function as they should. 	<ul style="list-style-type: none"> among all the experts, the tendency towards tele-consultation and tele-mentoring is rather positive the opinion among the institution's representatives is more positive than among the GPs half of the GPs have a negative attitude towards the concepts six of seven representatives think about tele-consultation and tele-mentoring in a positive manner
	Latvia 🇱🇻	Lithuania 🇱🇮	Sweden 🇸🇪	
	<ul style="list-style-type: none"> seven out of twelve respondents expresses supportive attitude and characterizes tele-consultations and tele-mentoring as a very good and positive thing some other expert adds that it is positive only on the condition if the doctors are motivated to use these technologies and if the tele-consultations and tele-mentoring are discreet, it is sufficiently arranged, the physicians do not have to cover costs of these technologies from their pocket, and purchase software or ensure technical condition of these technologies. 	<ul style="list-style-type: none"> No comment. 	<ul style="list-style-type: none"> few experts had a clear opinion some of them thought that tele-services could be helpful if implemented in every day routinee 	

3.5.3. The expert's visions in the area of tele-consultation and tele-mentoring

In this chapter the expert's visions in the field of tele-consultation and tele-mentoring are provided. This topic was chosen to include the expert's ideas on further activities in this field as well.

Belarus

Eight persons noted positive attitude towards tele-consultations. All the experts found it important to

⁴¹ created by the author



develop tele-mentoring in Belarus (ten persons). The experts think that for the efficient implementation of tele-mentoring in Belarus the working places of doctors must be equipped with modern IT-equipment (eight persons) and legislative base on distance learning must be implemented (eight persons) and the qualification of the teachers should be improved (five persons).

The majority of the experts pointed out that there were certain restrictions on the tele-consultation usage in healthcare (seven persons) and they think that the main reasons for such restrictions are technically and financially.

The majority of the experts (six persons) pointed out that there were certain restrictions for the doctors' tele-mentoring. The main ones are connected with the technical reasons, e.g. shortage of the required equipment. Besides, they mentioned that the restrictions are connected with the obligatory personal examination of the patient.

The results of the carried out experts' interview showed that it is important to organize the large-scale implementation of IT into healthcare to have the positive solution of brain drain and professional isolation problems. Tele-consultations and tele-mentoring are considered to be the most perspective directions of tele-medicine development in Belarus. Experts mentioned that there were certain restrictions impeding the large-scale development of tele-medicine. The majority of the experts pointed out that those restrictions were connected with the shortage of financing and technical equipment of the doctors' working places in the regions.

Estonia

Seven experts had some kind of their own vision in what field tele-consultation could be very successful in the future. Because tele-mentoring was introduced for the first time for many experts, there are no great visions concerning tele-mentoring, rather it was just said, that that kind of service might be useful.

Expert EST E6 stressed that it is certainly very important to tighten the collaboration between Baltic Sea Region doctors. Tele-consultation services could be used very well here. Because it is known that most of the Estonian doctors migrate to Finland, the experts were asked, if there could be a collaboration between Estonian and Finish countries. A collaboration between the countries was supported, but it was also emphasised that the direction of workforce movement is hard to achieve, because free labour movement should not be hindered.

In the context of small islands the possible benefit of tele-consultation was mentioned by four experts, whereat they all brought different islands for an example, so the need for that kind of service is evidently existing. One professor (EST E3) said that in her opinion that kind of tele-medicine services could have been used already for a long time. One of the experts told about the ongoing tele-consultations between the island Kihnu and the North Estonian Medical Centre and that in the future they have plans to expand that service to other islands as well.

In Estonia there is more and more talk about creating group practices in primary care, because at the moment most of the family doctors (~76%) are working alone in single-practices. The vision of



the chairwoman of the Estonian Society of Family Doctors is: „I still see as a solution group practices, that have merged into one health centre and that has branch offices in the rural areas and then it can be covered according to the need, whether with nursing service or with doctor's service according to the need again“. One professor (EST E3) talked about a similar vision, that there could be bigger centres with branch offices, where one can drive to from time to time or offer tele-medicine services.

One of the experts had a vision that was not so much a consultation between people, but a programme, that would inform the doctor of some facts according to the statistics: „ ... in progressive environments is that, that you can get automatic feedback about your work. For example compared to another practice list, you are writing half as many blood pressure drugs or that in that patient group there are more people with complications – all of this can be made automatically. The question is how much do you need that information. When thinking like that, mentoring is a bit combined with the theme of auditing.“ (EST E6)

When thinking about software, that helps doctors to make decisions – decision support, the experts were asked for their opinion about that kind of service as well, because it is known, that in Finland that kind of decision support, Duodecim⁴² is working. Since the field of a general practitioner is very wide, the decision support would be of great help to specialists, but first of all for family doctors and certainly for young doctors. The problem would be managing it, because it needs to be updated regularly and the resource that Estonia would need is very big, but expert EST E9 said, that if it is necessary it will be put to work. One of the experts also thought that decision support could basically be in the Estonian Society of Family Doctors' special web-based training programme Svoog.⁴³ The representative of the Ministry of Social Affairs (EST E9) said that a decision support project is on hold at the moment from their perspective and that it could be one of the next projects.

The experts were also asked about Svoog and their opinion about this web environment for family doctors. “How secure is it, but why not? Voluntary forum, not compulsory.” (EST E10) Expert EST E6 thought that Svoog is a very good starting-point to build upon, but it has to be thought through thoroughly. Later it could be developed for other specialities as well. “If this environment would be open in my dream desktop, then I would definitely use it. Meaning it is like our protected list.” (EST E1)

In conclusion, four of our experts thought that developing this environment further to offer tele-mentoring service is a good idea, but at the moment it is at the beginning, but there is a lot of potential. The future vision of mentoring was also associated with supervision of doctors. One of

⁴² <http://www.duodecim.fi/web/kotisivut/duodecim/-/naytasivu/82899/87639/L%C3%A4%C3%A4k%C3%A4riseura%20Duodecim.html>

⁴³ <http://inspirit.server.co.ee:8080/CAS/login?service=http%3A%2F%2Fwww.inspirit.ee%2Feps%2Fsvoog%2F%3Fa%3Dlogin>



the experts thought that mentoring would be necessary precisely from the aspect of supervision: *“Mentoring could be necessary and compulsory. For example some have joined the quality system, but still there are poor outcomes, they could need supervision, but they are not recognizing it. To make studying compulsory for them. Not a punishment, but to make a plan, what needs to be changed, to get better. Because in the end the health of people will suffer.”* (EST E10) Certainly it is important to look at each individual case separately, but tele-mentoring could help here.

Proceeding from the results of the interviews there are visions in the area of tele-consultation, less about tele-mentoring and the given tele-medicine services have a place in the future of medicine. With the smaller islands project the future is becoming a reality already, but it is hoped that the use of these services will expand even further.

Finland

The interviewees had interesting visions of how tele-consultation and tele-mentoring can be used in the future in health care. Tele-consultation and tele-mentoring allow e.g. for savings in travel expenses in the challenging situation of the municipal economy.

In the future, there will be interactive walls, which, when touched, will allow contacting an expert for consultation. This does not apply merely to health care professionals but also to their clients. In video conferencing technologies, personal smartphones and similar will be utilized. Especially for patients with memory disorders, new applications are useful in supporting living at home.

Health care will be concentrated and run by bigger units in the future; there will be only local services available in peripheral areas, such as school health care and child health clinics. Information technologies will be utilized in health care services in peripheral areas in a few years.

So far, systems have not been sufficiently easy to use. To some extent, the quality of image and sound has been insufficient. Usability is of paramount importance in all IT activities. Tele-mentoring and tele-consultation are at the same time an opportunity and a challenge. They are a really great opportunity but they require training and management in order that people know how to use them in the right way.

Teleservices will help standardize practices of care, learn the operational environment, deepen interaction, appreciate others' activities, save time, and reduce costs. In the future, it will be possible to exploit them much more than at present. The aim in their use should be the higher quality and impact of care, i.e. better care of the patient. It is about an aid and tool, which is used if applicable to the needs of its user. So far, in their development, the focus may have been too much on IT. Yet, IT is only a tool that should bend to match the needs of its user and of the content of the activities in question.



Germany

For one GP the integration of the islands via tele-consultation and tele-mentoring builds a vision in this topic (GER E12). Another interviewee underlined that he sees tele-consultation and tele-mentoring as very important solutions for the rural areas and hopes that those concepts will be widened (GER E11), while on the other hand another one states that those concepts should only be implemented, where useful, time-, and resource-saving (GER E8). The better connectivity especially in rural areas and faster internet connections would be a benefit for one GP (GER E9) and is also mentioned by another, who would prefer for example a fast direct internet connection to the orthopaedic surgeons in the next hospitals (GER E13). According to him the clinics have PACS connections, but the GP would wish for a better connection between the different sectors for a direct consultation (GER E13). One interviewee would support a system, where existing environments are integrated, such as patient data could be provided through a portal to other specialists via telemedicine for a second opinion (GER E10). But he also hopes that a tele-consultation system, where a physician could save travelling hours would not be misused so that the physician could instead treat more patients in the time he before needed for the normal amount of patients (GER E10).

The visions on tele-consultation and tele-mentoring were very different among the institution's representatives. One person for examples said that it is important to always bear telemedicine in mind if planning health care provision nowadays (GER E2). Another interviewee hopes for unproblematic data transfer some day without any problems concerning media breaks and interfaces (GER E6). A third partner wishes for more positive examples regarding telemedicine (E7), which leads into the same direction as the wish for less isolated applications and a more centrally structured solution derived from all the small good already existing solutions (GER E1). The hope another representative formulated was that in the case of telemedicine the demand will always be in the focus. In his opinion nothing worth can happen than that a system is build that is not useful and wastes resources (GER E5). Another hope from one representative is that somewhen the tele-consultation or tele-mentoring system could be widened to include the patients as well. He points out that some patients feel a lot more comfortable not staying in a clinic over night. Tele-consultations could build the bridge at night-times for the patients and relatives to the hospital and their specialists (GER E4). The seventh representative is full of hope that tele-consultation and tele-mentoring will go into the daily routine (GER E3).

Latvia

A quarter of the respondents mentioned the diagnostics field as the best sector where to implement tele-consultations and tele-mentoring. One of them clarified that the possibility to consult colleagues would be very important for those health care specialists who are working in the radiology sector, where visual diagnostics mean a lot and a comment about the current image is very useful. Another expert claimed that needs for specialists and GP's could be different.

So called "telephone/consultation - hours" as a good solution was mentioned by tree out of twelve



respondents. It would be very helpful if there were fixed times every day in which health care providers could consult their colleagues or more experienced specialists. Something similar to a “Skype” type consultation was noted as one of the easiest ways how to ensure these “telephone/consultation - hours”.

Two of twelve respondents had visions on consultations between GPs and patient. In this situation an already existing consultative GP phone was mentioned as a good example. It offers the possibility to patients to consult their GP on duty in cases they are in urgent need for advice outside their GP's working time or on holidays.

Two other experts talked about successfully implemented e-health offered possibilities. As one of the respondents said: “... it (e-health) foresees very brilliant future for computer hardware usage”. Some other respondent complements: “Further, if someday we will have normal e-health, when data from any laboratory, any data from roentgenology will be available and we will be able to carry out consultations using both - laboratory data, and roentgenology data - it would be very good – it would help, but meanwhile ... everything is still developing.”

One expert noted that it would be a success scenario if these services could improve knowledge, skills and communication capabilities among health care providers. Some other respondent talked about learning possibilities carried out through IT-technologies. It was said that it would be very useful if GPs could study videos and materials from conferences and seminars, which they could not attend. One experts had no visions about tele-consultation or tele-mentoring at all, because he had never faced these possibilities.

Lithuania

No comment on this section from Lithuania.

Sweden

The Swedish experts expressed the following visions: home consultations by a nurse on video link with the physician, autoscopies by videolink, smart phone applications for psychiatric patients going through psychotherapy, as well as taking the technique to the homes. One expert is developing a virtual examining room and another expert thinks that tele-services should be used routinely within the whole country within five years.

Summary

The visions differ among the different countries according to the different states of practice that the countries are concerning the usage of telemedicine so far. An overview of the different countries expert's visions can be seen in the table below.



Table 11: Overview on expert's visions regarding tele-consultation and tele-mentoring solutions⁴⁴

	Belarus	Estonia	Finland	Germany
Visions in the area of tele-consultation and tele-mentoring	<ul style="list-style-type: none"> on-line consultations with the usage of the high quality communication channels in emergency cases as the most perspective form of tele-consultation such forms as video-conferences and the postponed off-line consultations were pointed out as well 	<ul style="list-style-type: none"> visions in the area of tele-consultation exist less visions about tele-mentoring the given tele-medicine services have a place in the future of medicine with the smaller islands project the future is becoming a reality already, but hopefully the use of these services will expand even further 	<ul style="list-style-type: none"> health care will be concentrated and run by bigger units in the future there will be only local services available in peripheral areas, such as school health care and child health clinics information technologies will be utilized in health care services in peripheral areas in a few years tele-services will help standardize practices of care, learn the operational environment, deepen interaction, appreciate others' activities, save time, and reduce costs. In the future, it will be possible to exploit them much more than at present the aim in their use should be the higher quality and impact of care, i.e. better care of the patient it is about an aid and tool, which is used if applicable to the needs of its user so far, in their development, the focus may have been too much on IT yet, IT is only a tool that should bend to match the needs of its user and of the content of the activities in question 	<ul style="list-style-type: none"> integration of the islands via tele-consultation / tele-mentoring finding solutions for interface problems building a better network between different health care providers second opinion and connection with hospitals as well as unproblematic data transfer positive examples and less isolated solutions are also named in increasing the usage of tele-consultation/tele-mentoring in the future
	Latvia	Lithuania	Sweden	
	<ul style="list-style-type: none"> so called "telephone/consultation - hours" as a good solution mentioned three out of twelve respondents one expert notes that it would be a success scenario if these services could improve knowledge, skills and communication capabilities among health care providers some other respondent talks about learning possibilities carried out with IT-technologies it would be very useful if GP's could study videos and materials from conferences and seminars which they could not attend one expert has no visions about tele-consultation/tele-mentoring, because he has never faced these possibilities. 	<ul style="list-style-type: none"> No comment. 	<ul style="list-style-type: none"> home consultations by a nurse on video link with the physician otoscopy by videolink smart phone applications for psychiatric patients going through psychotherapy taking the technique to the homes one expert is developing a virtual examining room another expert thinks that tele-services should be used routinely within the whole country within five years 	

⁴⁴ created by the author



3.6. Recommendations

The literature review revealed that the requirements on tele-services have not been studied in Belarus, Estonia and Latvia. Only in Finland, Germany, Sweden and Lithuania requirements, such as an easy integration, easy usage or the ability to integrate it into the clinical process, were named among others. It was therefore decided to ask the interview partners on their recommendations regarding the every-day usage of tele-consultation and tele-mentoring⁴⁵. In this chapter the expert's recommendations are summarized.

3.6.1. The expert's recommendations for every-day usage of tele-consultation /tele-mentoring

Belarus

Experts think that for the efficient implementation of tele-mentoring in Belarus the working places of doctors must be equipped with modern IT-equipment (8 persons) and legislative base on distance learning must be implemented (8 persons) and the qualification of the teachers involved in the distance learning should be improved (5 persons).

Estonia

The main thing that the experts stressed was user comfort and a regulated system how these tele-services are provided. How are the consultations documented, how are they financed, how do the consultations take place, what kind of appliances are used and if one should register for a consultation like booking for a doctor's appointment.

"User comfort is very important and organisation as well."(EST E6) *"It should definitely be in the price-list, it should even have a certain time that is meant for it, ..."* (EST E3)

Finland

One of the interviewees said examples from other countries should be paid more attention to; in them, the issue has been approached in a more simple way.

Most of the interviewees said the whole issue and its use is still unknown. Tele-consultation and tele-mentoring should be made known among the public. The option should be brought closer to users as a tool. The user-friendliness of equipment and systems as well as questions about price are important. Technology should be made simple and easy to use enough. Every work station should be equipped with well-functioning equipment and connections, including video conferencing facilities (of HD-level, as one of the respondents said). It is important for this technology to be

⁴⁵ PrimCareIT (2012, p. 77)



operationally reliable and portable, whenever needed. Consequently, the equipment should be easy to turn on, it should not break up, and it should not be commercialized before testing in practice.

It was also mentioned that workstations and connections between workstations are needed, also for special health care and social services. The infrastructure should be in order. Someone should coordinate educational supply and the arrangement of meetings, take care of technology, and there should be technical support people available. The issue and the need should first have been recognized, an appropriate tool is then searched for that need, cooperation between technical experts and health care professionals should be intensified further, a common language should be created, when developing new applications, people often want too big solutions at once: one should advance little by little, one should not exaggerate the importance of information security. One should find out what is already being done and how, if it could be done in another way.

Also attitudes should change. Between people, there are differences in their acceptance of technology. Users should be invited to participate in planning.

Consultants should be reliable, recognized, and motivated to tele-consultation. Good conditions should be created for mentoring. Tele-mentoring and tele-consultation should be included in basic education and practiced as early as that.

Old information system mosaics would require a new information system, designed to function as a whole, because current solutions are no longer operable. Some years ago, a survey concerning patient data systems was conducted among 4,000 doctors by the Finnish Medical Association. The survey was published in the *Lääkärilehti* magazine two years ago. Among other things, doctors evaluated their patient data systems with school grades. The grade for the best system did not reach 8, the average being about 7. Yet, patient data systems are strategic tools.

Germany

The factor named by two respondents that should be focused on for every day usage by the GPs is the remuneration. The aspects named by one GP include a broad based start with an easy indication to receive a high amount of patients. This is due to the fact that the more a physician/nurse/medical staff use a system the easier it gets (GER E11). The provision of best practice examples (GER E12), the voluntary participation (GER E9) as well as the preinstalled system of same quality (GER E8) are also named by one GP. The same applies for the recommendation that many professional participants should be found (GER E12), that it should not be organised hierarchical (GER E10), a 24-hour availability (GER E13) and the clarification of all legal questions (GER E8).

Among the representatives the situation is similar. Only one aspect was named by two experts, namely the existence of promoters (GER E2, E3). Each of the following recommendations for every-day usage was named by one representative: the bottom-up start (GER E3), the large practice or clinic on the answering side (GER E3), pre-installed equipment (GER E7), a start with



many patients (GER E6), the presentation of best practice examples (GER E3), the voluntary participation (GER E5), the naming of financial and other benefits in using tele-consultation and tele-mentoring (GER E5), the generation of user's opinions through a user workshop prior to the implementation (GER E6), the implementation of a tele-consultation and tele-mentoring-hour to provide time frames (GER E4) as well as the inclusion of practice personal (GER E1).

The ideas of the participants were very diverse. Different ideas on how to easier implement tele-consultation and tele-mentoring into the daily routine have been brought up by the participants. Only six out of sixteen aspects were named by more than one interviewee, which shows how diverse the problems are in implementing telemedicine solutions seen from the different perspectives of various institutions and GPs.

Latvia

The analysis of this question shows that respondents' opinions are various and versatile. There was not one clearly dominant recommendation for every-day usage of tele-consultations and tele-mentoring. Five of twelve respondent's mentioned that very important are the knowledge of involved individuals, explanatory work and information campaigns, because: "... we need to explain people these opportunities, the benefits and advantages of them" and because "...there are lot of health care providers who are comfortable with present situation and don't want to change anything".

An equal number of respondents - three of twelve stressed the importance of need to identify the technological capabilities as well as their application possibilities in GP's practice and, of course, the need of involved health care providers to learn both how to work with technologies, and how to actively use these opportunities in daily work. One of experts talked about it very definitely: "*Firstly, a GP needs to acquire IT-technologies. He needs a time to do this, but he can success only if his work resources are sufficient, respectively there are enough people in his team.*" As already mentioned above, GP's team members, such as nurses or assistants play an important role in every-day usage of tele-consultation and tele-mentoring, because a supportive and understanding work collective can ease the GP's work. Very significant is also the availability of IT-technologies.

One of the growing problems in the Latvian health care system is the aging population. The reduction of the average age of GPs was also mentioned as a possible solution, because a lot of older GPs don't want to accept new technologies.

Two of all respondents think that successful implementation of e-health could help in this situation, since it would be a first step in the direction to daily tele-consultation and tele-mentoring usage. The e-health project in Latvia is still in the stage of implementation. The experts mentioned that as far as they know this project also includes tele-medicine, and therefore tele-consultation and tele-mentoring.

Two more experts thought that both the model of financing and the model of reports need to be clarified. How the GPs will report to the state about happened tele-consultations and tele-mentoring and who will take the responsibility about the result, either the adviser or the person who needed the



consultation. The kind of criteria for evaluation of consultations would have to be defined.

One of the experts pointed out: *“The use of tele-consultations and tele-mentoring and other communication tools should not be an end in itself, they are only tools, ... and it is important to understand the necessity of them, not only use them and do anything to develop telecommunications”*.

Also positive experience examples from other countries were noted as well as the necessity to demonstrate GPs that these solutions could really help them in their every-day work. The importance of feedback from colleagues was also mentioned as very relevant: *“If there will be feedback from colleagues that it is only waste of time, nothing will improve. But if GPs will share their positive experiences and gains among colleagues, the number of users will increase automatically.”*

A Lack of motivation among GPs was also mentioned as a stumbling block to every-day usage of tele-consultation and tele-mentoring, as GPs get unmotivated, if they can't make their work done.

One of experts gave a specific recommendation. From his point of view a GP's possibility to sell his practice could motivate them to use technologies like tele-consultation and tele-mentoring: *“For example, if in the practice's daily work residents are trained and IT-technologies are being used the GP could sell it for a higher price. It would be a very good motivation for them (GP's) to make their practice “more expensive”. In this case it wouldn't be necessary for GPs to work until eighty years, but they could sell their cherished practice, so that some new colleague could buy it and not stand in line for two years after residency to get his own practice.”*

Lithuania

Lithuanian health care professionals named the following tasks, which should be done to make tele-consultation and tele-mentoring a common tool:

- Creation of legitimate base.
- Contracts with health insurance fund, payment for the service.
- Creation of safe servers, where health cares professionals could connect to, exchange data, get a consultation from other professionals, who are also online. *“On duty online professionals”* (LTU E9).
- Pilot studies, which prove advantages of telemedicine.
- Supply of new computer-based technologies, internet access.
- Preparation of qualified professionals.
- Update of information systems.
- Spreading information about tele-consultations.
- Creation of common data bases
- Redistribution of time planning time for tele-consultations.
- Motivation of specialists and patients to follow and use newest technologies.



Sweden

No explicit answers from the Swedish experts was given, but one expert said "Put the best IT-technicians to work in the health care sector".

Summary

It can be summarized that there is not one recommendation, but lots of different aspects that should be considered when implementing tele-consultation and tele-mentoring solutions. The most important ones, named in several countries include the usage of good equipment, the creation of best practice examples and the integration of users into the creation process. An overview of all the recommendations from the different countries can be seen in the table below:



Table 12: Overview on expert's recommendations for the every-day usage of tele-consultation and tele-mentoring⁴⁶

	Belarus 🇧🇪	Estonia	Finland	Germany
Recommendations for every-day usage of tele-consultation and tele-mentoring	<ul style="list-style-type: none"> important to equip working places of the doctors-specialists with the modern computer equipment, to develop and implement regulatory bases on tele-medicine 	<ul style="list-style-type: none"> user comfort a regulated system how these tele-services are provided How are the consultations documented how are they financed how do the consultations take place what kind of appliances are used processing: register for a consult like booking for an doctor's appointment? 	<ul style="list-style-type: none"> most of the interviewees said the whole issue and its use is still unknown tele-consultation and tele-mentoring should be made known among the public the option should be brought closer to users as a tool the user-friendliness of equipment and systems as well as questions about price are important technology should be made simple and easy to use enough every work station should be equipped with well-functioning equipment and connections, including video conferencing facilities the infrastructure should be in order attitudes should change. Between people, there are differences in their acceptance of technology. Users should be invited to participate in planning. consultants should be reliable, recognized, and motivated to tele-consultation 	<ul style="list-style-type: none"> broad based start with easy indications presenting best practice examples voluntary participation pre installed equally high equipment Remuneration options Promoters
	Latvia 🇱🇻	Lithuania 🇱🇮	Sweden 🇸🇪	
	<ul style="list-style-type: none"> no one clearly dominant recommendation for every-day usage of tele-consultations and tele-mentoring five of twelve respondent's mentions that very important are knowledge of involved individuals, explanatory work and information campaigns three of twelve stress the importance of need to identify the technological capabilities as well as their application possibilities in GP's practice and, of course, the need of involved health care providers to learn both how to work with technologies, and how to actively use these opportunities in daily work two of all respondents think that successful implementation of e-health could help in this situation 	<ul style="list-style-type: none"> creation of legitimate base contracts with health insurance fund, payment for the service creation of safe servers, where health care professionals could connect to, exchange data, get a consultation from other professionals, who are also online. "On duty online professionals" [Expert 9] pilot studies, which prove advantages of telemedicine supply of new computer-based technologies, internet access. preparation of qualified professionals update of information systems spreading information about tele-consultations creation of common data bases redistribution of time planning time for tele-consultations motivation of specialists and patients to follow and use newest technologies 	<ul style="list-style-type: none"> No explicit answers one expert said "Put the best IT-technicians to work in the health care sector". 	

⁴⁶ created by the author



3.6.2. The expert's opinion on specific requirements regarding tele-services

Since the literature review showed that the requirements are not that much studied in all countries⁴⁷, yet, this chapter shows the expert's opinion on specific requirements regarding tele-services in general.

Belarus

To the experts' opinion for the efficient implementation of tele-consultations into doctor practice in Belarus it is important to equip working places of the doctors-specialists with the modern computer equipment, to develop and implement regulatory bases on tele-medicine.

The majority of the experts pointed out that there are certain limitations on the usage of tele-consultations in healthcare. To the experts' opinion, the main reasons for such limitations are technical and financial.

To the experts' opinion for the efficient implementation of distance learning it is important to implement regulatory bases on the forms of distance learning, to equip working places of the doctors-specialists with the IT-equipment, and to develop qualification of professors on the distance learning issues.

Estonia

There was not much talk about specific requirements concerning tele-services in the Estonian interviews. This is most probably because most of the experts (nine out of ten) are not familiar with the technical side of tele-services.

The most important requirement that two of the experts emphasised is user comfort. One of the experts (EST E6) thought that an extra application, extra software is needed, because the solution has to be comfortable. He said that it has to be like your everyday work, like your mobile phone, meaning the usage has to be as comfortable, quick and self-evident as is nowadays a phone to a person. Software problems were also brought up by another expert (EST E9), who said, that at the moment the Ministry of Social Affairs sees the software developers to be the weakest links and if that problem could be solved then new projects could be taken into development.

It was asked, if Skype could be used as means of service. The experts found that it is available and free of charge, but it needs integration, because the devices, which mediate health care and mass communication devices do not communicate with each other, considering software above all. And also Skype's technical quality was considered being not good enough.

⁴⁷ PrimCareIT (2012, p. 77)



Four of the experts stressed that as long as they had to open many programmes, they would rather call a familiar specialist by phone.

It was also considered important that the system has to be regulated and if these services are provided, then it has to be clear that it is being done and it is paid for, not that the doctor does nothing during consultation time or does it off hours. *"Doctors communicate with each other anyways – when does an ordinary communication become a consultation?"* (EST E10), meaning that the rules or orders of services have to be agreed upon, on what grounds and conditions services are performed. It was also mentioned, that it is important to determine, who will take responsibility on patient agreement and data protection.

In conclusion, the most important thing that these services will be actually used is still user comfort and that complicated logging in and time consuming technical solution wouldn't drive for an easier solution as calling a familiar specialist by phone.

Finland

One of the interviewees said that services should be assigned a producer price when consultation and mentoring takes place crossing organizational boundaries.

Moreover, most respondents noted that equipment should be made function well. Staff should be trained to use it. It is not possible to learn at the same time as a device is already in operation. Technical support should be on duty if equipment is needed 24 hours a day. Information security problems should be tackled. Instead of facilitating things, information security has become increasingly more difficult.

Health care organizations should allocate resources for the purchase of equipment of sufficiently high quality and human resources. A report on the know-how and willingness of primary health care regarding video and tele-consultation will be published next year. Someone should coordinate video and tele-consultation activities at the health centre level.

Teleservices should be included in basic education and they should become part of updating education. They will increasingly be part of everyone's profession because there will not be enough specialists for every locality. Still, they could be consulted through these methods.

National-level guidance should be strengthened for health care information systems in general, which starts to be a hopeless task after the decentralization of power of decision at the beginning of the 90's. The purchase of information systems got out of hand, and every municipality is working with them on its own. Government funding for the establishment and design of areal information systems ended. It was followed by the start of the building of KANTA, the preparation of which has got out of hand.



Germany

Three of the six GPs underline that it is important that a tele-service is easy, user friendly and acceptable in its handling (GER E9, E11, E13). Two interviewees stated that a service has to be financeable (GER E8, E9), in which respect one of them suggests that insurance companies should directly pay for the service (GER E9). An important requirement for two other GPs was also that a tele-service should only be started if it is needed (GER E8, E10). One interviewee each named the aspects of a working IT (GER E12), the usability by laymen (GER E13) and no substitution of personal interferences (GER E11) as important requirements of tele-Services.

Similar to the GPs, four out of the seven interviewees said that the easy and user-friendly usability is important for a tele-service (GER E3, E4, E6, E7). Other important requirements named by two representatives included that the financing of such solutions have to be clear (GER E1, E3) and should not overstrain the GP practices (GER E1). Also that the IT should be well-working (GER E3, E4) and a provision of good training possibilities (GER E1, E5) as well as acceptable data security regulations (GER E2, E3) and a compatibility with lots of interfaces (GER E2, E6) was mentioned by two respondents each. The provision of best practice models (GER E4), promoters (GER E2) and the support through the ministry (GER E4) along with an implementation only in settings where it is suitable (GER E5) was named by one interview partner each.

It can be summarized that it is recommended that a tele-service should in the first place be easy in its handling and user friendly to IT laymen. This fact was named by GPs as well as institution's representatives all together by seven of the thirteen respondents. The second most important aspect with four namings, two from GPs and two from the representatives is the financing of a tele-service followed by a well-working technology. Mentioned by two representatives were the facts of a good data security, the good training opportunities and the compatibility with many interfaces, while the fact only named by two GPs concerned the aspects of an actual need of the system. Namely, that a tele-service should only be implemented, if needed.



Latvia

Asked about specific requirements concerning tele-services experts expressed a variety of opinions, which are presented in the table below.

Table 13: Requirements of tele-services named by experts from Latvia⁴⁸

Opinion on specific requirements concerning tele-services	Number of respondents
The system must provide fast and easy exchange of information	7
The system must be simple, easily understandable and user-friendly	6
The system should not require too much investment and financial resources for its purchase and use	3
The system must provide not only the exchange of information between physicians, but also between physician and patient, physician and pharmacist, physician and national health care institutions (e.g. Health Inspectorate, National Health Service)	3
Physicians must have access to the basic technologies (such as Internet and telecommunications)	3
Tele-services should facilitate daily administrative work of physicians (such as filling in the necessary documentation and creating reports)	2
There must be a differentiated approach to the needs of professionals related to their specialty (for example, consultations in the form of conversation for GPs and visual image sending/processing for radiologists)	2
The system must be secure and data protection must be provided	2
There should be defined periods of time when specialists are available for consultation immediately	2
Motivation and additional training for older colleagues should be provided, respecting their limited ability to acquire the latest technologies	2
The system should facilitate daily work not to create additional duties	1
Consulting breaks in the daily work are required	1
There must be a specific regulation stating who is responsible for treatment result - a physician who gives an advice or a physician who needs this consultation	1
Has no opinion	1

⁴⁸ created by the author



Lithuania

No comment on this section from Lithuania.

Sweden

Important for all experts was to have the tele services well integrated within the clinical work, i.e. planned as one part in the daily schedule and easy to use. One opinion from an expert was that the use of tele-services hasn't come as far as it should have, because of the incitement structure and that it should be a general responsibility to integrate it in the daily clinical work.

Summary

Generally, it can be summed up that a tele-service should be user-friendly and easy to use. In most countries aspects such as a good integration into the daily routine was seen as a major success factor for running a tele-service. Other requirements were seen in good training opportunities of staff and in the financing as well as data-security issues. A total list of the requirements can be found in the following table.



Table 14: Overview on expert's opinion on specific requirements regarding tele-services⁴⁹

	Belarus 🇧🇪	Estonia	Finland	Germany
Experts opinion on specific requirements regarding tele-services	<ul style="list-style-type: none"> •for the efficient implementation of distance learning it is important to implement regulatory bases on the forms of distance learning •to equip working places of the doctors-specialists with the IT-equipment •to develop qualification of professors on the distance learning issues 	<ul style="list-style-type: none"> •user comfort •complicated logging in and time consuming technical solution wouldn't drive for an easier solution as calling a familiar specialist by phone. 	<ul style="list-style-type: none"> •most respondents noted that equipment should be made function well •staff should be trained to use it •no on-the-job training, but before operation •technical support should be on duty if equipment is needed 24 hours a day •information security problems should be tackled •instead of facilitating things, information security has become increasingly more difficult. •coordination of video and tele-consultation activities at the health centre level •tele-services should be included in basic education and they should become part of updating education 	<ul style="list-style-type: none"> •a tele-service should in the first place be easy in its handling and user friendly •the second most important aspect is the financing of a tele-service •a working technology. •good data security •the good training opportunities •the compatibility with many interfaces •aspects of need (a tele-service should only be implemented, of needed)
		Latvia 🇱🇻	Lithuania 🇱🇮	Sweden 🇸🇪
	<ul style="list-style-type: none"> •the system must provide fast and easy exchange of information •the system must be simple, easily understandable and user-friendly •the system should not require too much investment and financial resources for its purchase and use •the system must provide not only the exchange of information between physicians, but also between physician and patient, physician and pharmacist, physician and national health care institutions; •physicians must have access to the basic technologies 	<ul style="list-style-type: none"> •No comment. 	<ul style="list-style-type: none"> •Important for all experts was to have the tele services well integrated with the clinical work, i.e. planned as one part in the daily schedule and easy to use •one opinion from an expert was that the use of tele-services hasn't come as far as it should have because of the incitement structure and that it should be a general responsibility to integrate it in the daily clinical work. 	

⁴⁹ created by the author



4. Discussion

Altogether, the findings from the expert interviews in the seven countries revealed many interesting facts on the usage, experience and successful implementation of tele-consultation and tele-mentoring in the countries to counter-act brain drain and professional isolation in remote regions of the Baltic Sea Region.

Definition of brain drain and professional isolation

According to the experts from all seven countries the term **brain drain** stands for the loss of knowledge either through migration of the well educated medical staff to other countries, to more appealing areas than the rural areas, to other occupations than the medical or the loss of well trained staff to the private or (university) hospital sector.

The term **professional isolation** was seen by the experts from all seven countries as the phenomenon of the isolated physician, who has problems in integrating and contacting other health professionals. Although, some experts in some countries named this isolation as non existent it was still seen by most experts a relevant issue that should be tackled to keep up the good quality of primary health care in the remote areas of the BSR.

Factors leading to professional isolation and brain drain

Experts from six countries out of seven said that the health care worker's own personality is a **factor leading to professional isolation**. Different characteristics were mentioned for example will, motivation, personality, attitudes, wanting to be self-dependent and the lack of will to share one's knowledge. Only the experts from Belarus didn't mention this factor. The second factor leading to professional isolation that was mentioned by the experts from five countries is the arrangement of the health care system, not having an appropriate legal frame and also management issues. The third factor that was mentioned by the experts from four countries was geographical isolation, this includes working in the rural areas, bad road infrastructure, and difficulties in recruiting staff to rural areas. Experts from four countries said that time, namely the lack of time, is a critical factor leading to professional isolation as well. The next most mentioned factor leading to professional isolation were financial problems, heavy workload, lack of teamwork and difficulties to go to trainings. Each of these factors was mentioned three times. Possible factors leading to professional isolation that were mentioned by different countries twice were a lack of IT resources and the need for diverse experience. Also the problems concerning young doctors were mentioned by two countries, namely that it is hard to attract young people to rural areas and that youngsters have difficulties creating a network.

There were some factors that were country-specific. For example only experts from Belarus named as a factor not having the opportunity to go to trainings abroad. Estonian experts were the only ones, who mentioned trust between doctors and not being a member of the the Society of Estonian Family Doctors as factors leading to professional isolation. Experts from Latvia were the only ones,



who pointed out the aging of the staff. Lithuanian experts said that there is a lot of information to search from and that it is difficult and also that GPs have to know a lot. Experts from Sweden were the only ones who mentioned social factors as the reason leading to professional isolation.

There are quite a few similarities between the factors that lead to professional isolation in different countries for example the personality of a health care worker, arrangement of the health care system, geographical isolation and time. But there are also a few factors that are country specific. When comparing the factors leading to professional isolation that were pointed out by the experts and that were found in the literature review then they are mostly the same: financial problems, arrangement of health care systems, lack of technology, geographical isolation, little training opportunities, heavy workload, social factors and a lack of time.

The expert interviews in different countries showed that the main **factors for brain drain** are financial problems which mainly means the salary. This factor was named by experts from all the seven countries in the project. Low remuneration of labour of a medical specialist was already stressed in the literature review. Among the main factors what experts named, were the poor attitude of the society towards health care workers and low status of the work in primary care. Experts from five countries named that as a factor for brain drain. Experts from four countries said that a very important reason for doctors moving from rural areas to urban are better social aspects and means for the family. In the city there are better job opportunities for the spouses and better education possibilities for the children. Living in a peripheral area limits also other opportunities in life for example hobbies and cultural experiences could be scarce in the rural areas. The same reasons were also already named in several countries' literature overviews. In most countries experts mentioned that for a young doctor, who has just finished his medical studies, it is sometimes scary to go and work in a rural area where he/she has to work alone and doesn't have anybody to ask advice from. Also there is a lack of learning and communication opportunities which reduces opportunities for professional development. Inefficient organization of a medical specialist's work, long working hours, disorganized infrastructure and other poor working conditions in some variability were among some of the other factors that were described by most of the experts in different countries in the interviews and also in the literature review. Only experts from two countries named professional isolation as a possible factor for leading to brain drain.

Effects of brain drain and professional isolation

According to the expert interviews in different countries the most important and common **effects of brain drain** are the increase of dissatisfaction and negative attitude towards the healthcare system by the people, the decrease of PHC and specialized medical care accessibility, the decrease of quality (at least in terms of patient-centered care and mistakes in the treating process which plays a big role in patient safety), and health care professionals lack of competence.

There are also longer distances to the closest doctor and longer waiting periods for the patients. It will not be possible to produce services of primary health care if there are no actors around. This concerns all the professional groups of health care; it is about the entire system. Local services will



end. Reduced access prolongs waiting time for necessary health care services' problems for GPs to refer patients to specialists because there is a lack of physicians to choose from in the rural areas causing problems for GPs to get high-quality feedback.

In none of the seven countries any study that directly concentrates on the effect of brain drain from rural to urban areas has been carried out, but general consequences of the migration of the health care workers have been described a little and are as follows: Loss of training expenses, labor shortage in the health care sector, deterioration of work conditions to other doctors, the emigration of doctors might bring about the migration in the country itself, the regional differences in health care services increase and the accessibility of medical care decreases, a lack of physicians in remote areas brings a risk of being over-loaded by work, having too much responsibility, and lacking support of colleagues, which can be a major concern especially to younger physicians. Also a loss of quality is a large risk and it is not possible within the health care system to give the same quality of care with best practice standards to all inhabitants. Other effects are longer waiting times and an increase of isolation.

So the facts from the literature review and the opinions of experts which were interviewed were very similar and also of the same kind in every country.

According to the expert interviews in the project countries the most named **effect of professional isolation** is the decrease of quality in health care services and medical care. Due to professional isolation quality of medical care primarily in patient safety might decrease, because the number of errors and mistakes may increase. It also may reduce knowledge among the professionals because heavy work loads can enhance the feeling of not being able to do good work. There can also be expensive co-workers with less competence that also affect the quality in primary care. The influences of professional isolation are seen in the quality, impact and availability of health care services.

Also, as a result of professional isolation, professionals stick to old practices, resist change and build protective walls. In rural areas, professionals may also think that familiarity produces quality, even though it can also be the opposite way. Professional isolation may cause a great risk that the quality of operations in the organization will be reduced. The lower quality of health care caused by professional isolation can also lead to dissatisfaction by health care users and patients.

According to the literature review the main effects of professional isolation are a loss of quality, longer waiting times, the risk of being over-loaded by work and having too much responsibility and missing support of colleagues. The main effect of professional isolation by expert interviews are similar to the literature review. The experts in the project countries have reported a decreased quality of health care services and also heavy work load.



Solutions counter-acting brain drain and professional isolation

Looking at possible **solutions** that could help counter-act brain drain and professional isolation in seven countries it is seen that although the views are very different, there are common trends.

All countries mentioned as one of the possible solutions an increase in funding directed to primary health care, health care in general and for medical personnel salaries. Adequate work-pay ratio, employment opportunities, additional support particularly in rural areas and feeling of perspective and stability of the health care system is described as options in Latvia. Money directed to health care system could ensure better working conditions for medical personnel and it is seen as a relevant factor in Estonia, Finland, Lithuania and Latvia. It is mentioned, that equally important are both - psychological and physical working environment.

For Belarus it is particularly important to increase the social protection of doctors, in Latvia social guarantees and arrangement of social environment is stressed as a solution, and also experts in Sweden emphasized that changes made in social structures could simplify life in the country side. In Estonia some concrete social problems that should be solved to counter-acting brain drain are described. For example, the public transportation system should be improved or money should be directed into developing the schools that are situated in rural areas, so that people now living there will stay. An increase in rural area population or at least prevention of depopulation is motioned as a solution not only in Estonia, but also in Latvia and Germany. Good infrastructure for the families of medical staff seemed to be actual questions in Estonia and Germany.

Increasing the prestige of the physician's profession is mentioned as a very important factor in Belarus and Latvia, but in Germany reputation rise is also seen as an important solution for counter-acting brain drain in rural areas. In the Baltic States (Estonia, Latvia, Lithuania) a change of society attitudes towards doctors is included as an integral part of the possible solution model. The role of social criticism towards physicians is particularly stressed in Estonia.

Germany and Estonia also described the creation of centralized specialty/family centers as one solution in rural areas for decreasing the movement of health care workers to cities, while Latvia and Sweden mention tele-consultations as a possible solution.

Also country specific solutions were mentioned. For example, in Lithuania it is important to ensure doctors conditions to administer their direct functions, lessen those activities which are secondary and are not associated directly to the job of a physician. In this case physicians could save their time and avoid overload. Making the field of primary health care in rural areas interesting for physicians to work within is seen as a good solution in Sweden. In Finland different factors increasing interaction and communication are seen as a solution as well as service structure transformation from client-based into client-focused and accordingly development of operation models. Training of other professions, who support physicians and nurses in the health care system was seen as an important step in Estonia.

In the previous PrimCareIT output it was found out that there are no studies in five (Belarus,



Estonia, Germany, Latvia and Lithuania) of the seven countries on projects that focus on the effects that tele-consultation or tele-mentoring has on counter-acting brain drain and professional isolation. Only from Finnish tele-mentoring it was reported that the arrangement enables small wards to keep up-to-date with the newest research outcomes and treatment methods and in Sweden studies were found that revealed that there are effects on maintaining the diagnostic competence, educational effect and quality of care. The literature review outcome confirmed that tele-consultation and tele-mentoring have not been used for counteracting professional isolation and brain drain or these tele-services have not been thought of as an possibility for counteracting professional isolation and brain drain, therefore the reason they have not been used⁵⁰. In this current report expert views on tele-consultation/tele-mentoring as a solution for counter-acting brain drain and professional isolation was set out.

Concerning the expert's **opinion on tele-consultation and tele-mentoring** to counter-act brain drain and professional isolation, the most positive attitudes towards the new technologies came from Sweden, Finland, Germany and Lithuania. In Germany 11 of 13 experts see tele-consultation and tele-mentoring as good solutions concerning brain drain and professional isolation, with one expert even stating it as the only solution in this field, although there were mentioned some hindering factors, such as time-consuming installation or IT-aversion among several other barriers. Different opinions were expressed by experts from Estonia: None of them see tele-consultation as a direct solution to counteract brain drain, however all the experts had a positive attitude towards tele-medicine services and they thought that these measures could help decrease brain drain and increase the assuredness and quality of care in remote areas. Also in Lithuania tele-consultations are described as a very useful tool with the possibility to improve the quality of health care services. Experts from Sweden pointed out that tele-services could create a bridge between isolated professionals in rural primary care and specialists working in university hospitals.

There are various opinions in Latvia about the usage of tele-consultation and tele-mentoring in respect of professional isolation and brain drain. More than half of the experts (nine of twelve) confirmed that these technologies are a possible solution or build a partial solution for counteracting professional isolation, saying that in the case of implementing such technologies medical personnel must have an interest, available Internet communications and the ability to use these technologies. Speaking about counteracting brain drain, none of the experts saw tele-consultation and tele-mentoring as a solution for this problem, but five out of twelve respondents (two experts and three GPs) considered that this could be only as a partial solution. Similar opinion have been expressed by Finnish experts: tele-consultation and tele-mentoring could be of help for the situation, but it is one way to implement consultation and not the only solution.

There are lot of benefits mentioned about the usage of tele-consultation like time-saving, the possibility to help decrease unevenness of health care between cities and villages. It is described

⁵⁰ PrimCareIT (2012, p. 82)



as an excellent way of providing specialized care in sparsely populated areas and it could also help to provide virtual participation in seminars and events. Experts from Finland mentioned some positive experiences with tele-consultations that they already have, e.g. in psychiatry and the consultation of a neurologist on duty, consulted e.g. about thrombolytic treatment in the case of cerebral infarction. The Finnish experts underlined that professionals should feel the benefits of tele-mentoring and tele-consultation to them above all professionally.

In the same time also disadvantages of tele-consultation and tele-mentoring are described. First of all it is described as to time-consuming for the daily practice and there are too many problems such as poor internet availability or the too complicated time-consuming set-up of the videoconference equipment. In case of tele-consultation involved professionals lose the personal aspect of face-to-face conversations, which is still regarded as an important component. It is important that the consultant is a professional in their field and has a positive attitude to the consultation event. Another hindering factor mentioned is the lacking willingness of GPs to open themselves for questioning some other person on a medical problem. There could be seen a link that those professionals, who are interested in the increase of health care service quality, follow innovations and accept them kindly and are more open-minded than those who limit their everyday work.

It is highlighted that various aspects should be considerate, for example, experts from Lithuania think that on purpose the tele-consultation should be applied wider, changes in the health care system should happen and a legal proffer and payment system should be created, but experts from Finland add that it is also essential that technology starts from a client focus, which is not disturbed by service-specific or administrative boundaries. It is necessary that the concept should be mature enough and the technology should not be a problem.

There were no comments from Belarus about tele-consultation and tele-mentoring as solutions concerning brain drain and professional isolation.

Spread of tele-consultation and tele-mentoring

Most experts have **experience** through the use of one telemedical or another ICT technology for tele-consultations. The experts from two countries said that they use Skype for consultation, whereas experts from three countries use consultation on the phone. Also the experts use video consultation or consultations through e-mails. Also, experts from two countries described the use of tele-consultations and tele-mentoring in different fields of medicine such as dermatology, otology, cardiology.

The **opinion on tele-consultation and tele-mentoring** was divers. The experts from two countries said that tele-consultation are tools of the future, other experts said that tele-consultation will help compensate the lack of time and geographic distance. The biggest aim of tele-consultation is to rise the doctor's motivation and the main problem to take good tele-consultation facilities in every day routine is of financial nature.

The **vision** was almost the same in all countries. Mostly all experts agreed that tele-consultation



and tele-mentoring should be more frequently used in future health care. The experts talked about video conferences, video from conferences and seminars or off-line consultations. Experts thought, that tele-consultations can save time, reduce costs, improve quality of treatment, and also can be useful in aiming to standardize medical practice.

Recommendations on tele-services and tele-mentoring/tele-consultation

The **recommendations for the usage of tele-consultation and tele-mentoring** of the different countries are very similar. In most countries it was named as an important aspect for the usage in every-day routine to have the working places equipped with well-working user friendly technology. This is seen as a key to make the staff use the devices in all countries. Another factor that was mentioned in many countries is the financing of the system. Also the promotion of the solutions by the provision of best practice examples or inclusion of promoters and persons speaking in favour of tele-consultation and tele-mentoring was seen as an important factor to enhance usage of those solutions.

The expert's **recommendations regarding specific requirements of tele-services** were rather similar. In most countries the easy usage of a system that widens the already used range of devices and builds an additional benefit as well as the financing of a tele-service are factors that are regarded important. Also it was claimed that with services that are in 24 hour operation technicians or support teams should be available at any time.

Summary and conclusion

Summing up the findings the expert interviews revealed that many aspects are the same, such as the factors and effects of brain drain and professional isolation as well as the recommendations of the experts concerning the usage of tele-consultation and tele-mentoring. Among the effects and factors leading to professional isolation a lot of overlaps in the expert's opinions can be found, which could be contributed to the fact that wherever a lack of medical staff arises, the effects, such as longer waiting hours or a lack in quality, are the same, even though they occur in different health care systems with different conditions. The same holds true for the factors of brain drain and professional isolation. Since all medical professionals from all seven countries are humans seeking for their personal well-being it is natural that the same factors, such as better living conditions or better remuneration lead to their migration to other countries, regions or professions. Still, there are also some differences among the countries' answers, such as the problem of brain drain abroad, which is higher in Estonia, Lithuania and Latvia and not that much of a problem in Germany, Finland and Sweden, which could be due to the different working and remuneration conditions in the different European countries. Another topic, where differences arise is the question on the expert's recommendations, where the difference of the organization of the health care systems can be seen as a factor that creates different recommendations for a tele-consultation or tele-mentoring solution. While time and financing of a system is an issue that should be tackled in each country the inclusion of promoters is for example only seen by experts from Germany and Lithuania. This could be due to the fact that in those countries where regions and councils are responsible for



implementation the financing and time of a system is more of an issue to convince the regional authorities to implement a solution. In countries such as Germany, where due to the health care organisation no council could ask all physicians to use a system the privately owned practice physicians will have to be caught by the promotion of the solution through a promoter. The experience is rather different as well. Some countries, such as Finland, as also the literature review had revealed, are already further than other countries, where neither any tele-consultation/tele-mentoring projects were found in the context of the literature review, nor were the experts experienced in tele-consultation or tele-mentoring. On the other hand, experts from all countries see high potential in tele-consultation and tele-mentoring as a solution to counter-act brain drain and professional isolation.

Due to the potential of tele-consultation and tele-mentoring seen by the experts a focus group will be held in the next step to further elaborate on the practical implementation of those solutions in the participating BSR countries. Afterwards general conclusions and recommendations on the application of tele-consultation and tele-mentoring will be derived from the literature reviews, this report on the expert interviews, the findings from the focus group and the findings from the pilot sites in WP4 and WP5. Those conclusions will be formulated in a strategy paper to give recommendations on the implementation of tele-consultation and tele-mentoring to successfully counteract brain drain and professional isolation from remote areas of the Baltic Sea Region, where it is already present and where it is soon to be occurring and already pronounced by different demographic and socio-economic trends.



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6. Appendix

6.1. Total set of questions

Framework Questions for Expert Interviews (developed in WP3 Meeting Karlskrona 25th April 2012)

1. Definition of professional isolation and brain drain

What is your understanding of professional isolation and brain drain?

GP

Others

Are you faced with professional isolation?

Is your health care system faced with professional isolation?

Is your region faced with brain drain?

Is your health care system faced with brain drain?

If yes, in what respect?

Is this in rural or in urban areas? (depends on the expert)

2. Factors leading to professional isolation and brain drain

What factors lead to professional isolation in your opinion?

What factors lead to brain drain in remote primary care?

What is the most influencing factor leading to brain drain?

How important do you regard professional isolation compared to other factors?(such as remuneration and financial incentives)

3. Effects of professional isolation and brain drain

What are the effects of professional isolation in remote primary care?

What are the effects of brain drain from remote primary care?

GP

Others

How does it effect you personally in your work environment?

How does it effect the health care system?

4. Solutions

Which solutions help counter-acting brain drain?

Do you think tele-consultation/tele-mentoring could bridge the problem of professional isolation and therefore brain drain?



5. Experience with tele-consultation or tele-mentoring

Do you have experience with tele-consultation or tele-mentoring?

What is your opinion on tele-consultation or tele-mentoring?

6. Recommendations

What could/should be done that tele-consultation / tele-mentoring will be used in every-day routine?

What are your recommendations?

What are your opinions on specific requirements regarding tele-services?

(Which kind of tele-services would be preferred by health professionals?)

7. Personal Opinion

Do you have visions in this area?

8. Success scenarios - Where could tele-services help?



6.2. Overview of the sample summary

Table 15: Overview of the sample description⁵¹

Profession			
Country	Physician/nurse	Institution's representative	
Belarus	3	7	
Estonia	5	5	
Finland	2	8	
Germany	6	7	
Latvia	6	6	
Lithuania	5	5	
Sweden	4	5	
Total	31	43	

Age			
Country	younger than 40	40-55	older than 55
Belarus	1	7	2
Estonia	1	8	1
Finland	1	7	2
Germany	0	9	4
Latvia	4	6	2
Lithuania	4	2	4
Sweden	2	2	5
Total	13	41	20

Origin		
Country	rural	urban
Belarus	8	2
Estonia		10
Finland	2	8
Germany	5	8
Latvia	4	8
Lithuania	4	6
Sweden	4	5
Total	27	47

⁵¹ created by the author



Gender		
Country	female	male
Belarus	4	6
Estonia	6	4
Finland	6	4
Germany	3	10
Latvia	8	4
Lithuania	6	4
Sweden	3	6
Total	36	38

Time in current activity/health care system			
Country	less than ten years	10 to 20 years	more than 20 years
Belarus	0	1	9
Estonia	3	6	1
Finland	no data	no data	no data
Germany	2	3	8
Latvia	no data	no data	no data
Lithuania	2	4	4
Sweden	no data	no data	no data
Total	7	14	22

Field of expertise (more than one can apply per expert)				
Country	Expertise "telemedicine"	Expertise "GP"	Expertise "health care system total"	Expertise "Young professionals"
Belarus	7	8	7	7
Estonia	1	4	10	6
Finland	2	4	10	0
Germany	9	10	8	4
Latvia	2	6	6	2
Lithuania	2	5	10	1
Sweden	3	4	2	0
Total	26	41	53	20



7. Appendix: Political reflections

Milestone 3.3: "The feedback from political discussions in WP6 is reflected in the WP3 outputs"

Analysed political discussions (Documents provided by WP 6)

- Round Table Discussion from the final conference in Tallinn
- Discussion about PrimCareIT from Annual meeting of PSB of eHealth for Regions network

The expert interviews show that the characteristics of brain drain and professional isolation are on different levels, as well as the prevalence of tele-consultation and tele-mentoring differs between the countries. The factors and effects of brain drain and professional isolation are diverse but similar in all countries.

Opinions on this are for example that Isolation between specialists and GPs exists. PrimCareIT-project has helped to lower the gap. This has also meant less travelling and visits to remote areas. IT solutions in the rural areas have improved. The results have also been cost savings as well as better communication between the GSs and specialists.

Pernille Buhelt (Region North Denmark) explained that there are problems for recruiting the doctors to the remote areas. Higher salaries are needed in order to hire personnel.

Aulis Ranta-Muotio (South Ostrobothnia Health Care District) also mentions that there are problems in recruiting the young doctors in rural areas. eHealth solutions can be a good solutions since younger health care professionals are usually more eager to use the new technology than the older ones.

Stefan Lamme (Region of Skåne, Sweden) pointed out that there are two approaches to the question. In short term approach tele-mentoring can solve acute problems when experienced doctors can support younger ones. On longer term tele-consultation and tele-mentoring can help to decrease the professional isolation and make it easier to recruit health care professionals to isolated areas.

Aulis Ranta Muotio (South Ostrobothnia Health Care District) believes that tele-mentoring and tele-consultation can be solutions to the problem. The benefits are cost-effectiveness and the savings in time. He explains that in his municipality there is a fibre optic network that can used for the new solutions.

Liudmila Zhilevich, Ministry of Health of the Republic of Belarus, adds: "Tele-consultation and tele-mentoring as tools would help professionals to work in remote areas. Not only would these



increase the motivations of the professionals, they also secure the patient treatment process.”

While some interesting projects are already being carried out, there is no large-scale deployment of tele-consultation or tele-mentoring in use in Estonia yet, said Ivi Normet, Estonian Ministry of Social Affairs. The same can be observed in the other five represented countries.

Generally, it is easier to convince people to develop new technology when it is going to save money. However, Justina Januševičienė (Ministry of Health in Lithuania) said that while money is an important factor, other benefits such as quality and availability should also be taken into consideration. Aulis Ranta-Muotio, South Ostrobothnia Health Care District, pointed out that ICT implementation could, especially with regard to Finland and the long distances that need to be covered, save a lot of time and thus money. Eriks Mikitis, Ministry of Health of the Republic of Latvia, additionally voiced some concern that the new technology is going to eliminate the work for the doctors.

All in all the political discussions revealed that brain drain and professional isolation exist in the partner countries, even though with different characteristics. Some politicians, like Stefan Lamme (Region of Skåne, Sweden) also mentioned the effects of tele-consultation and tele-mentoring can have. In addition to this the monetary aspect, including salaries for doctors as well as the cost-effectiveness as a benefit of tele-consultation and tele-mentoring solutions, were discussed.

Consequently the findings from the expert interviews are repeated and supported in different ways.

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